LIFE GIVING

HOT TUB THERAPY

For Natural Healing

New Discovery Restores Health

Life-Giving Hot Tub Therapy for Natural Healing

New Discovery Restores Health

By John P. Reed

Published by

CREATIVE WORKS PUBLISHING

3225 McLeod Drive
Las Vegas, NV 89121

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Library of Congress Control Number: 2021912359

ISBN: 978-1-63901-976-2 (eBook)

Printed in the United States of America

www.LifeGivingHotTub.com

Life-Giving Hot Tub Therapy for Natural Healing

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medication should consult a physician before using a hot tub since some medications may induce drowsiness while other medications may affect heart rate, blood pressure and circulation.

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One must realize that it takes time to naturally detox and heal the body. There is no magic pill or instant healing. This can all be done during a series of very pleasant soaks in your hot tub, maintaining a healthy diet and to not further ingest or be exposed to toxic substances that can create setbacks.

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PREFACE

Ancient Chinese medicine said: "Sickness is due to stagnation or blockage".

It has been stated that all mammals in nature live 7 times their growth rate. That is 7 times the time it takes them to reach maturity. For man, that is 147 years, considering maturity is 21 years.

This begs the question: Why are most persons passing away or are unable to live and act normally or are in a state of disability around the age of 68 to 75 on average? Could they be dying prematurely?

The Hunza tribe of the Hunza Valley in the Himalayan Mountains is a well-known example of persons living well beyond the age of 80 and having an active life. The average lifespan of these Indians is about 100 years. Many live to 120. One report said one Hunza Indian lived to 160.

Research in 2008 revealed that in a remote island in the Philippines beyond Mati, up in the mountains, a truly primitive Indian tribe was visited and studied. The island was about 14 by 6 miles and was mountainous. This was a risk as it is illegal for a white man to go there. This visit was achieved because an Indian from this tribe left it and came to the city to live. The researcher made friends with this Indian and the

Indian escorted him to the tribe regardless of the law. The Indians in this tribe have never been off the island. They wear self-made garments and live in huts. They are nomadic and like to travel around the island and live in different groups.

They live on a diet of primarily raw coconut, raw fish and a small amount of fruit such as mangoes and bananas. Shimmying up a palm to get a coconut is a daily activity. They are full bodied and thick. The shaman was met who looked about 43 years old and was 82. The Indians there who were about 80 had thick white teeth with no receding gums. Their gums were dark, almost purple. They did not brush their teeth. They had perfect teeth alignment with large jowls. If something got stuck in their teeth, they would get it out with bark or a stick. They had no illnesses. They do not have children unless the whole tribe agrees. When a child is born, he/she is treated as the child of everyone in the tribe. It is as if the whole tribe acts as the mother and father of the child. There were about 200 Indians on the whole island. They did have injuries from accidents. When they die, they just go to sleep and do not wake up. The older Indians there are said to be 120 years old or older.

It is interesting to note that the diet these Indians lived on since birth contained no breads, pasta, grains or processed and packaged foods. They ate no frozen meats or frozen foods and no bottled or canned foods. They have never had any form of injections, vaccines,

refined sugar, refined salt, no antibiotics and no medications of any kind.

Considering this information, one can say there is something here demanding further investigation if one wishes health and longevity of life beyond the age of about 70 years.

We live in an industrial age where toxic chemicals abound. They are all around us. Many processed foods contain preservatives and flavoring additives such as aspartame and phosphoric acid which are essentially poisons. They are found on our farms that are treated with pesticides. GMO foods are by definition altered physically and chemically. 'Modern' farming practices, such as using synthetic fertilizer, are utilized to produce crops. There are chemicals in our air from chemtrails and automotive pollution. The list goes on. Could it be that such toxic chemicals from numerous sources are contaminating the cells in our body and the cell's reproductive process is also so contaminated, shortening our lives? Could it be the lack of the body's ability to cleanse itself of toxicity which clogs the body's normal activities and functions? Is it that the lymphatic system is not functioning properly to clean out the toxicity? Or could it simply be the lack of circulation to remove the dead cells when cells duplicate and these dead cells form areas prime for cancer growth? Or could all these factors combined be the reason for shorter lives? What is the cause of what could be considered premature death?

Experience shows that the lymphatic system is not generally addressed or treated by the medical profession. Yet this system working properly is key to health. It is a vital part of our immune system as is the appendix and tonsils. The benefits of hot baths, hot and cold therapy or hydrotherapy are to increase the body's circulation and blood flow allowing nutrients into those areas of circulation blockage so that cleansing and healing can occur much more efficiently. It is well known and has been used as a therapy for thousands of years of history in many countries around the world. Heating up in a sauna and rolling in the snow or getting into a cold shower after a steam bath are common examples of hot and cold therapy in use today.

Extensive research has been done regarding hot water therapy and its use to detoxify the body. It has been taken to the next level and redeveloped into a powerful health therapy. This is a brand new development in recent years. When done properly, it is a very powerful detoxification and purification procedure that can improve health and extend life. This is a natural healing method with no medication whatsoever. This new development is not broadly known and is presented in its entirety in this book.

Since the advent of hydrogenated oils, heated vegetable oils, trans-fatty acids, deep fried foods, etc., such oils are not soluble in the body at the body's ordinary temperatures. Such oils crystalize and harden in the body. They become stored in the body's veins, arteries,

lymph system and other areas causing many body problems such as illnesses, diseases and lymphatic congestion.

This book was written in the spirit of addressing such health issues in a total natural healing approach using no drugs, no medication, and no chelation therapy. This is a simple and logical approach to get the body to a high temperature long enough so that the hardened crystalized fats and oils and other toxicity stored in those fats (i.e. heavy metals, etc.) soften and become fluid. In this state they can be drained or escorted out of the body via the sweat glands, pores and digestive system.

Over many years, numerous tests and evaluations have been done concerning the information as laid out in this book using an empirical approach. Many successes have been recorded. To some health enthusiasts this approach is the only workable method of truly purifying the body of such bad fats and stored toxic chemicals in the lymphatic system.

The information in this book can also be used for persons who just want a more health-giving hot tub or pool. If you don't want conventional pool chemicals (chlorine for instance) in the water of your hot tub and/or pool, there is specific technology contained herein on how to obtain the purest water available to soak and swim in. Such a water filter system brings the water to a level of drinking water purity or as close to

that as one can get. This has been proven to be very beneficial in many cases.

Also contained in this book is information on how to build your own wood hot tub and maintain the filter system and hot tub.

Note: Considerable technological study and research has gone into the development of the information as presented in this book. To keep things simple, it is being presented in layman's terms.

Book One

HOT WATER THERAPY REDEVELOPED

Chapter One

THE HOT TUB IS THE BEST SOLUTION

The Body and Bad Fat

Growing up in the world today one is bombarded with chemicals and toxic oils (heated well above body temperature) in processed foods, packaged foods, fast foods, cereals, cooking oil from an aerosol can, deep fried foods and so on. These oils, such as hydrogenated oils, are used as a preservative for shelf life of the product.

You may ask "But what happens when these oils and preservatives get into the body? Can the body properly utilize and digest them? Can they easily get out of the body once in there?"

The simple answer is NO! They stack up and store in the body and cause a myriad of health issues over time. This time factor is about 5 to 20 years before the health

issues really start to show up. Treating these with medication and hoping for the magic pill or quick fix is just more toxicity. Research has shown that chelation therapy does not work to remove toxicity. (See chelation therapy in the glossary of this book.)

The body in general has a difficult time digesting oils in a large quantity. If ingested in large quantity (more than about 4 tablespoons per day), the good oils mostly just pass through. The good oils are ones that the body can digest and utilize the nutrients of, such as truly cold pressed olive oil (not heated above 96 degrees F.) or coconut oil that is not heated above 112 degrees Fahrenheit at any point of its processing. Fresh raw avocados can be properly digested in large quantities.

Most all other oils on the market are heated up to 120 to 140 for shelf life which moves them over into the category of hydrogenated oils. Certain brands of flax seed oil and sunflower oil used to be processed at or below 96 degrees. But these oils have been off the market for some time. They can be made at home with a special press that makes oil from seeds. The temperature needs to be monitored during this process to ensure 96 degrees F is not exceeded.

Almost all coconut oil on the market today is heated for shelf life well above 112 degrees F which kills the natural bacteria and enzymes necessary for proper digestion. (112 is noted as the highest temperature coconut oil can still be considered raw due to SE Asia

coconut trees living abundantly at such peak temperatures.)

Hydrogenated oils, when they dehydrate, turn into a kind of plastic. They have a similar molecular structure to plastic. They are dehydrated or dried when in foods. Margarine and other oils as soy, corn, palm, and canola are all heated and they can't be properly digested as they are not soluble in the body. They harden and store in the body. The body can't get rid of them through the skin or digestive tract at normal body temperatures. They clump together and they will block the pores even if you perspire. The hottest the body can get with extreme exercise is 100.1 degrees Fahrenheit and this is not hot enough to deal with the trans-fatty acids.

Hot Tub Use to Get Rid of the Bad Fat

Research has shown that lymphatic congestion has been caused by hydrogenated oils such as margarine, vegetable oils, flavoring additives, soy, safflower oils and roasted peanut butter. Such oils crystalize and harden and combine. They are not a fluid at body temperature. One can't dissolve and expel them from the body without raising the body's temperature to a high degree for a certain length of time. The body's temperature can be safely raised up to as much as 102 degrees F by soaking in hot water ranging from 105 to 110 degrees F. The hotter you can stand it the better.

105 is the minimum temperature necessary to affect the lymph system drainage.

It takes some time to heat the crystalized and hardened fats so they melt and dissolve. Research has shown it takes about 45 to 50 minutes to get deep enough into the lymph glands and nodes to the point where the toxic fat can start to melt. With a 1 hour soak you get an actual 10 minutes of dissolving the bad fats and cleaning the lymph system. This 10 minutes of dissolving amounts to about one-one thousandths of an inch dealt with. You keep at it layer by layer and after some time you have detoxified and purified your lymphatic system and will achieve very good health benefits.

It is vitally important that the water that is used for the hot tub soaking is as clean of toxic chemicals as possible. It needs to be as close to drinking water quality as it can be. Like soaking in a natural hot spring – totally clean fresh water. Our city tap water abounds in chemical toxicity. This toxic water can be made clean through filtration. This is explained in detail later in the book.

The ideal soak time is 90 minutes for best and fastest results for a hot tub or hot bath session. If you add eating good fats as part of this process, it will help speed the procedure. Some toxins that migrate to the digestive system are absorbed or bind molecularly with those fats and are escorted out of the body via the

digestive system.

Sauna, infrared sauna and steam baths do promote circulation and are healthy but only for short periods.

A steam bath is recommended for only 10 minutes. A sauna for 15 to 20 minutes - depending on how hot the sauna is. After that, the heat gets in and damages the lungs; you stop absorbing oxygen and know you need to get out of there before you pass out.

Long exposure of such high heat in a sauna or steam bath can damage the eyes, mucous membranes, the lungs, bronchial tubes (air passages), throat and ears. If you're naked, it can damage the vagina and the penis, and the urethra (the urethra will heat up inside). It can damage the vitamins and enzymes and other nutrients under the skin and in the skin.

In a sauna or steam bath, even if you set the temperature to 110 degrees research has shown, it is estimated, you would need to be in the sauna/steam bath for about 8 hours to get the same result as you would in a hot tub for 90 minutes. This is due to the insulation factor of the air against the heat. The water in the hot tub is directly against the skin and the heat penetrates into the body far better.

In a hot tub from 105 to 110 degrees Fahrenheit, you can stay in for as long as 12 to 15 hours and even go to sleep if you so desire! Such extended hot tubbing has been done successfully by many persons. But normally

speaking 90 minutes is a good run of it.

For the normal person, one gets hot and needs to take a break. This subject of taking a break from the hot water and cooling off is discussed later in this book.

When in a sauna to perspire toxins from the body, it is best to shower and rinse toxic perspiration every 3 - 4 minutes so that any perspired toxins are not reabsorbed into the skin where they may eventually re-enter the body.

When showering using municipal city water that has fluoride and is chlorinated, it is best to have filters installed that will eliminate these chemicals. Research has shown that chlorine vapors (chloroform) gradually weaken and damage the blood, lungs, thyroid and brain.

Steam baths are the least desirable form to extract toxicity from the body via perspiration. The steam burns mucous membranes, including those in the lungs, bronchi and sinuses. But if you so choose to use them for short periods, use good clean mineral water to produce the steam. Do not use municipal water which contains chlorine, fluoride, etc.

After the hot tub soak

Do not just rest or go to bed or be sedentary after your hot tub soak. Be active so that what has been melted

that has not already gotten out of the pores fully but is still in a melted state can get circulated and pushed out of the body more. This is a critical time for best results. You will continue to sweat for a while. This is good. Dress in warm comfortable clothes and take a walk or do some light exercises or stretches if you so desire for at least 30 to 45 minutes after the soak.

Note regarding the spleen

One of the jobs of the spleen is to regulate the body's adaptability to cold and hot temperatures. It removes red blood cells from the blood stream to thin the blood and cool the body. It also adds red blood cells to the blood to thicken the blood and heat the body. People who do not have spleens should ease into hot bath or hot tub and drink more fluids immediately prior to entering the hot water.

Warning regarding being underweight

A person who engages with this hot tub cleansing program as suggested should be about 10 to 15 pounds overweight or have a 20 to 25 percent minimum body fat (which is normal for most people). It has been found that those that have less body fat than this do not have the necessary fat to absorb excess toxicity that is being

extracted. Metal toxicity that is released such as mercury, thallium, cadmium or lead, etc. can circulate and damage tissues without the fat there. With the body fat in place there is no problem at all.

Do not be concerned about the high heat levels

The body has its own cooling system. It cools the body by 3 degrees Fahrenheit minimum. Even in the hot water temperatures as discussed, the body may heat up to about 102 under the skin. This is not uncomfortable but one is hot. At this temperature the hot water is doing a good job cleaning the lymphatic system and body. If you take your temperature under your arm, the thermometer will read almost as hot as the water. If you take your temperature from your rectum or mouth, it may read as high as 102. One does need to know one's own limitations and listen to the body and approach these temperatures on a gradient.

What the hot tub properly done can do

The body has collected the bad fats and lymphatic congestion over a period of about 5 to 20 years or more. Proper hot tubbing over a period of time can detoxify and purify the lymphatic system of the bad fats

and other toxicity (such as salt and metals) that are clogging it and causing it not to function properly.

Ninety percent of toxins are said to leave the body through the skin as perspiration and evaporation. A properly functioning lymphatic system is necessary for this to occur.

In a very large number of persons it has been found that the skin is blocked with lymphatic waste (trans-fatty acids) and congestion that must be melted and moved with heat. This is why the hot tub is the best solution to handle this blockage and to get the lymphatic system back to a proper operational condition.

Once this is accomplished, normal sweat and exercise should keep the body clean of toxicity provided of course that one is not ingesting or breathing more toxicity that will again clog up the lymph system and body.

In summary there are many other benefits of a hot bath or hot tub such as: relaxation, headache reduction, helping your heart by reducing blood pressure, increasing circulation and blood flow, easing muscle pains, boosting production of serotonin, and with salts in the water or Epsom salts the magnesium helps to reduce inflammation, the heat relieves cold and flu symptoms, helps to fight off viruses, steam from a hot bath can help relieve stuffy noses and congestion, it helps your breathing, stimulates metabolism, reduces

menstrual cramps by bringing blood to the area, burns calories and can boost self-confidence.

Examples of detoxification / testimonials

1. A man age 63, who was not leading an active life but sitting around a lot like a couch potato, stated that he virtually has no energy. He did the hot tubbing 90 minutes a day minimum for three months at 110 degrees F. After three months he was still complaining of being tired and having no energy. He was directed to simply stop the hot tubbing for 3 weeks to see how he felt. At the end of the three weeks he was a different man. He had melted everything out and just needed to cool off his body and let it recover. His energy fully recovered and he started a new business working 14 to 16 hours per day for years after. When he reached age 76 – 77 the following his success was ended.

2. "It has been a year and a half since finishing treatment for Hodgkin's Lymphoma. I have remained cancer free since.

   "My routine, almost daily, includes 15 to 60 minutes soaking in my glorious hot tub. I climb the stairs, flip the top open that covers and protects the tub, swing my legs onto the bench, and lower my body into the water. Initially my experience is to think, 'Oh my, this is hot.' And then as I immediately acclimate, I experience a

'high' that is truly ineffable. In the hot tub, my nervous system remains calm while I treasure each moment listening to the sounds of nature around me. There is research supporting longevity by being aware of the benefits of healing modalities to help the nervous system remain in a calm state. The hot tub is one of these methods for me.

"I know my hot tub ritual has played an important role in my recovery and continues to improve the quality of my life in many other ways. My energy, organs, digestion, heart, mobility, and cognitive functions have all continued healing and been strengthened from this self-care I gift myself.

"This life-affirming hot tub system has contributed to improving and enlivening my spirit emotionally, physically and spiritually.

"I am forever grateful to John Reed for his wisdom, support and expertise knowing how to build a hot tub system with the proper filters that eliminate the use of toxic chemicals."

Thank you, John.

Lovingly,

Bonnie

3. A man age 50 had muscle soreness and chronic fatigue but not severely. He experienced chronic sinusitis and could hardly breathe through his nose at all. Working a normal work schedule, he was able to hot tub at 104/107 degrees Fahrenheit for 40 minutes per day two to three days out of week, for 1.5 to 2 hours.

   Results after 11 months were: Increased energy, generally feeling much healthier and no longer feeling the need to do hot tubbing. His sinusitis went into remission and he could breathe normally through his nostrils.

Chapter Two

HOT TUB WATER ADDITIVES

Suggested additives to the water

To improve the hot tub experience some additives can be put into the water.

A key one is salt. This can be Celtic Sea Salt, Himalayan Salt, unprocessed sundried Sea Salt or Epsom salts.

Ordinary table salt should not be used as it is highly processed with minerals taken out. It has chemical additives such as iodine and chemicals to prevent it from clumping.

The salts helps to detoxify the body. Epsom salts help reduce pain and inflammation. Salt is not a "must have" ingredient but is nice and makes for a better experience.

Unpasteurized apple cider vinegar is for nourishing the skin and it helps prevent muscle cramps and eases bruising. It also helps to neutralize any remaining toxicity from the water.

Clay. Recommended is Terramin clay from California. The clay helps to soak up toxicity coming out of the body and keep the water clean. It adds a nice feel to the water, making it like a natural hot spring.

The mix for a hot bath of about 50 gallons (the size of an old claw foot tub) is one half to one cup of Epsom salts and 2 to 3 tablespoons of apple cider vinegar. If other salts are used, only about 2 tablespoons are needed. Clay can be one half a cup. A cup of milk or coconut cream can be added too for a bath to help keep the skin from drying out from the city (not fully filtered) water. A hot tub with a proper filtration system would not need milk or coconut cream. Also a hot tub is not drained after each use and the milk or coconut cream would get sour and smelly.

For a 5' x 5' hot tub which is about 700 gallons, you would add more ingredients proportionately.

For example:

1. About 1 cup of organic apple cider vinegar.
2. 2 cups of Terramin Bath Clay.

   You can get info on this clay and purchase it from California Earth Minerals. It is also sold on

Amazon.

3. About one quarter to one half cup of Celtic Sea Salt. This helps the pH balance in the water. Much more if Epsom salts are used.

How to measure the amount of water in a hot tub

For a rectangular or square tub, multiply length by width by depth x 7.5. This gives you the volume in gallons.

For a round hot tub, the formula is radius squared x pi (3.14) x depth x 7.5.

Chapter Three

HOT TUB VERSUS HOT BATH

Special benefits of a hot tub

Anyone interested in this program can use a hot bath or start with a hot bath. They are readily available to most everyone. However, due to the size and heat retaining qualities of an ordinary bathtub, they are far from ideal for this program. They can be used of course but they do take more time and work to get the same result.

First, most persons can't get their whole body under water in a bathtub all at one time. This reduces the speed of progress of the program by at least 50% considering only half your body is in the tub at a time. One half is heating, the other half is not being treated. Getting one's entire body in the hot water gets the fastest results.

Second, the water is constantly changing temperatures.

Even if one starts out at a high temperature, say at 108 degrees F, after about 20 minutes that temperature sinks down to about 103 or 102 degrees F and now it is time to take a break to get the bathtub back to 105 at least. To do this simply drain about 2 inches of water from the tub. Then grab a pail. Insert the cold water that is first coming out of the faucet into the pail so as not to cool the bathtub water even more. Once the water is hot, fill up that 2 inches to bring the bathtub water back up to about 108 degrees F. Then get back into the tub to continue your soak.

Upon actual test, this takes about 3 to 7 minutes to complete this process. Considering it needs to be done every 20 minutes on average, you would have do this several times for a 90 minute soak which is not convenient.

Research has shown that the most one wants to take a break from this hot water therapy is 2 to 3 minutes. If one takes a break longer than this, the melting of the hardened fat process starts to reverse. This can extend the time needed to get the fats properly melted to a fluid state so they can be eliminated.

The best option has been to let the water out while you are in the tub. Then your time out of the tub to fill it back up with hot water is less. Staying in the bathtub during the re-fill is not comfortable as you may get burned by the hot water coming into the tub with you in it.

Considering these factors, let's take a look at a proper hot tub set up compared to the bath tub set up.

A hot tub has a heater and pump circulating water through the tub keeping the tub at a constant set temperature within about 2 degrees. You can set it to the temperature most comfortable for you. There is no having to take a break unless you wish to cool off for 2 to 3 minutes. A hot tub pump can be programmed so that at a particular time of day it will be ready to go at your desired set temperature.

With this, all you need to do is show up at your scheduled time and get in. On the other hand, the bath takes time to fill and get it to the right temperature, add ingredients and get in it. A hot tub can be set up to be at the ideal temperature 24/7 if you wish so that you can go in at any time you please.

For a hot tub, you add the ingredients just one time normally when you fill the tub with water. You can get your entire body into the hot tub all at once.

Bath tub water is discarded after each use. With a hot tub, the water is filtered and used for up to two months before a need to change the water. You will save water by using a hot tub.

Thus a properly set up hot tub is most convenient and effective and worth the investment.

Chapter Four

HOT AND COLD THERAPY AND COOLING OFF

Cooling off

Most people embarking upon a program of hot tubbing or hot and cold therapy are not accustomed to being in such heat for long periods at high temperatures. It takes a bit of getting used to. Even when you are "used to it", one does get hot and needs to cool off in order to continue.

Methods of cooling off are:

Cold dip pool. This is my favorite and works the best for me. There are several options for this. One is having an ordinary pool near your hot tub. Or another "hot tub" that is a dedicated cold dip pool. Or having a bathtub available with cold water in it waiting for you

when you want a break.

One can use the ambient temperature for the cold water which works adequately. Or one can set up a way for the water to be set at a particular temperature like 50 or 60 degrees F. Some Turkish bath spas have cold dip pools that get down to 50 or 48 degrees F.

One can jerry-rig an ordinary water cooler used for drinking to cool the water for a cold dip tub. Plumbing needs to be done from the water cooler through the cold dip pool. This is a makeshift set up. Another option is to purchase a water cooler machine that is designed for a cold dip pool/tub. A separate pump would be needed to circulate the water and a second filtration system. Since you are in the cold dip pool for only 2 minutes at a time, having a very thorough filtering system (as recommended for the hot tub soaking) is not vitally necessary but it is ideal.

Another method is to have a large bowl or bucket of ice water nearby and have a few hand towels in it. You take the ice cold towel and put it on your head and neck. Immerse your wrists into the ice water for up to 2 minutes with your hands open. Open hands allow the heat in your hands to dissipate more efficiently than with a clenched fist. The whole body may start tingling or chilling to the brain and then your bones. This is a manifestation of sudden increased circulation and is nothing to be concerned about. Store bought ice packs designed to be on the skin can work in this way too like

the ice water towels. However they start warming quickly and need to go back into the freezer to be able to be used again.

A shower is another method of cooling off.

A bathtub or an old fashioned “claw foot” bathtub can be used for a cold dip. The older ones are less expensive than buying a smaller, additional wood tub. If you get an old used claw foot tub, ensure you get the original finish on them that is baked on. The ones that are re-finished have a different coating which expels toxins into the water. Perhaps this is not a big deal when used as a cold dip as you are in the tub for a short time, but if used for a hot bath the re-finished bath tubs should not be used. Architectural salvage places carry claw foot bath tubs often. Or you may find one off of Craigslist, Offer-Up or FB marketplace. The old claw foot tubs are made from cast iron and are very heavy. Therefore they have very good insulation qualities that new bath tubs often do not have.

The maximum time to spend in the cold dip pool for best results is 2 minutes. One can extend this to 3 minutes being out of the hot water. If one is out of the hot tub much more than this, the softening fats begin to harden again. This of course is counterproductive of your goal to melt the bad fats and expel them out of the body via the pores.

Once you do the cold treatment a few times, your body will acclimate to the heat better. Then you will be able

to stay in the hot water for longer periods.

When one is soaking in the hot water, it can cause one to experience weariness. And it may seem to take forever for a little time to pass. One solution for this is to find something to take your mind off the heat. This can be a movie or reading material or a video game perhaps. Many things can be used to do work and keep one's attention off the hot water and increased body heat.

Hot and cold therapy

This set up of a hot tub and cold dip pool highly facilitates the ability to go back and forth many times for hours. This activity moves out of the realm of just hot tubbing for our purposes and into hot and cold therapy. This is a very healthy option to have!

There are several books and writings about the benefits of hot and cold therapy and there are several ways to do it. It is known as an excellent way to help the body circulate and increase blood flow for health and healing. It is invigorating! The Japanese have been doing it for hundreds of years up to temperatures of 107 to 115 for the hot water.

Contrast therapy is a powerful form of hydrotherapy often used by Athletes. One immerses a limb or the whole body into hot water for a time and then

immediately into ice cold water. Contrast therapy can help move the lymph fluid quickly and efficiently throughout the body and reduce inflammation. This kind of pumping of the vascular/ capillary system boosts the blood flow of the body causing one to feel invigorated and alert. See “Hydrotherapy” in the glossary.

Natural hot springs are wonderful. But you need to check the temperature for them to qualify as a lymphatic cleansing hot water therapy.

A popular doctor in California who cured cancer as well as other ailments successfully with herbal treatments considers hot and cold therapy a key element in his treatments. This is Dr. Richard Schulze. And he says:

> *"If you ask me what was the most POWERFUL Healing Method, that helped my patients RECOVER from their CANCERS, it was HOT and COLD Water Therapy. You can't get Blood to move in and out of different areas of the Body with ANY Therapy that even comes CLOSE to the POWER of Hydrotherapy!! The 2nd CLOSEST thing for circulation would be to take Habanero Cayenne Peppers. It's the ONLY Herb that I know, that you can eat and it will make your Face red with Blood. Habanero Cayenne Pepper and Bodywork are GOOD for Blood Flow, but Bodywork and Habanero Cayenne Pepper, as GREAT as they are, are still a JOKE compared to the POWER of Hydrotherapy!!"*

Chapter Five

DIET SUGGESTIONS TO FACILITATE DETOXIFICATION USING A HOT TUB

Diet Suggestions

Pineapple contains a high level of bromelain that will help break down dead cells and it eats away at and neutralizes toxicity. It is like a natural dissolving agent. When eating pineapple with the raw fats (raw butter, raw cream & fresh raw coconut cream) you have a healthy food that helps to neutralize and absorb the toxicity under the skin. Once neutralized, the toxins are then dispelled from the body via the sweat glands.

Coconut cream mixed with some fruit gives you the best solvent or dissolving agent that dissolves toxicity in the lymph system. When you add raw egg to the mix it works even better.

Coconut cream and pineapple are very helpful to help break down the bad fats or lymphatic waste under the skin. This food combination assists the detoxification procedure when using the hot tub. But the food can't do the job alone with a lymph system that is compromised. The body will never eliminate lymphatic waste properly without hot water therapy. It takes about 45 minutes at 105 degrees steady temperature for the body to start eliminating the lymphatic waste.

One recipe is: One quarter cup to one cup of unripe pineapple with three to six tablespoons coconut cream, one to three tablespoons unsalted raw butter and one to two tablespoons raw dairy cream. One can vary it and add things like ginger and/or turmeric (both of which help circulation) and unheated honey (never heated above 93 degrees F) which aids in the digestion of fats and protein.

The bromelain in the pineapple helps to prevent the melted lymphatic congestion from hardening as much when the body temperature later normalizes after getting out of the hot tub.

Raw dairy (raw milk, raw butter and raw cream) can be found by contacting representatives of the Weston Price Foundation in your local area. The website address is https://www.westonaprice.org.

Hydration drinks that are very good during and after the hot tub soak can be made in a blender containing

any of the following:

cucumber; tomato; watermelon; whole raw milk; fresh raw liquid whey. Use about 3 cups of any of these mixed to your desire.

Remainder of the ingredients which are good are:

1 tbsp. raw apple cider vinegar

2 tbsp. lime juice

2 tsp. lemon juice

2 tbsp. raw coconut cream

2 tbsp. raw dairy cream

2-3 raw eggs (Chickens that are not fed soy products and pastured produce the healthiest raw eggs.)

1-2 tbsp. unheated honey (optional)

Blueberries or blackberries can also be added as desired.

Water can be added to your liking—usually about one half to one cup.

A good hot day hydration drink if you have a vegetable juicer is:

50% Cucumber

20 % Celery

20% Tomato

10% Parsley

Note on raw milk and raw dairy

Whole raw milk is a food from nature that contains all the necessary enzymes and good natural bacteria for proper utilization and digestion. It can reverse and prevent malnutrition. Raw whole milk contains natural antibodies. It promotes the detoxification of accumulated toxins, mutant cells and decay. It facilitates digestion, helps tissue development and has been found to help the reversal of cancer. Raw cream promotes calm nerves and protects the nerves. Raw cream also nutrifies the nervous system and brain. Raw butter soothes and cleans the cells. These are all very healthy foods.

Kefir or clabbered milk made from raw milk is a natural process. It is this process from which cottage cheese and yogurt are made and whey is obtained. If anyone has any difficulty digesting raw milk, it is easier to digest as kefir or with a small amount of unheated honey mixed in. It is very rare that anyone has difficulty digesting truly raw milk.

Raw milk can be obtained from a variety of animals: cows, goats, sheep, camels and water buffalo. These have all been available in the US in recent times. Each has its own variation of nutrients. Cow milk is the most common and abundant. Goat milk is next in line for availability. Cow milk takes the longest to digest. Goat milk digests faster and sheep milk even faster. Sheep milk is high in vitamin C. Camel milk is a better milk to

consume if you are in a dry , arid climate.

There are claims that raw milk cause sickness. This has never been proven. There is no scientific study in existence that proves that raw milk is dangerous to health. The book entitled “The Milk Book” by Dr. W.C. Douglass provides information about the vitamins and minerals that are destroyed in milk by pasteurization. The fats in pasteurized milk become lipid oxides which are known carcinogens. Only pasteurized milk putrefies.

Water

Quality water suggestions are spring water brands provided in glass. It can be obtained sparkling or not. Mountain Valley Spring water is a good one. In many areas of the US there is a service where Mountain Valley Spring water can be delivered to your door in 5 and 2.5 gallon sizes at about half the cost of what is charged in the stores. Some areas of the US have other spring water available in glass. Water in plastic of any kind is not recommended as tiny plastic particles can be leached into the water.

A natural sparkling mineral water gives you the hydrogen peroxide effect of breaking down toxins. It neutralizes and separates them so it is good to add it to the hydration drinks or drink it by itself.

If you have a well, well water is good as it does not contain the chemical additives that most city water has. The water must be from a deep well that gets water from the aquifer. In Florida for example the aquifer ranges from 90 to 270 feet deep depending on location. If you do not already have a well and would like one, you can have one drilled for you by a company that provides this service. Shallow wells that do not reach into the aquifer are just as toxic as the chemically treated city water if not worse. Such wells that do not obtain water from the aquifer are used solely for irrigation and not recommended for drinking by the local municipalities.

Deep well water *does* need to be filtered as there are commonly toxic substances that you do not want in your hot tub soaking water, such as radon, arsenic, iron, manganese, nitrates, hydrogen sulfide, etc. It is normal for a well owner to have his well water tested yearly to ensure such items are being properly filtered out.

Book Two

HOW TO BUILD AND MAINTAIN YOUR OWN WOOD HOT TUB

Chapter One

WATER FILTERS AND FILTER MEDIA. HOW TO GET THE CLEANEST POSSIBLE WATER TO SOAK IN

How to get clean water from city water

The whole point of having the cleanest possible water to soak in is that soaking the body in water that contains toxic chemicals or toxic minerals can be harmful to the body. These elements will get into the body via the pores. If the chemical is strong creating vapors, as can be experienced with chlorine from city water in the shower and public pools, the vapors can get into the body via the sinuses and lungs when breathed. These chemicals once inside the body can cause damage to cells, kill cells, create dead and toxic

cells that store in the body creating a toxic environment. This condition is one where healthy circulation is inhibited and such growths as cancer (tumors) can grow and thrive. One swim in a chlorine pool won't do much harm. It is the accumulation effect and soaking for hours that can cause such conditions.

Municipal city water is known to contain the following contaminates: aluminum, arsenic, copper, iron, lead, pesticides, herbicides, uranium, ammonia, barium, cadmium, chloramine, chlorine, chromium, fluoride, bacteria, viruses, mercury, perchlorate, radium, selenium, manganese, PFAS (complex chemical compounds) and silver. Not only that but according to Associated Press investigation in 2008, tiny amounts of pharmaceuticals were found in 24 major cities water supplies including bisphenol-A, antibiotics, opiates, hormones and mood stabilizers.

In 2004 Prozac was found in the river system and groundwater used for drinking in Britain. In the USA (2004) the Environment Agency concluded Prozac was in the water table and is a concern. Chlorination of the water neutralizes only about 50% of such contaminates. Boiling the water does not remove these contaminates. Very thorough filtration is the best answer.

In 2007 I worked with Aajonus Vonderplantiz to develop a filtering system that would provide drinking quality water (or as close to that as one can get) for hot

tubbing. The filter system is designed to eliminate toxic chemicals from the city water supply so proper hot tubbing (detoxification and purifying the body and lymphatic system) can be done.

In a nutshell, what was worked out was a three stage filter system in the sequence as below:

1. Paper filter which gets down to 5 microns of filtration. This was the first stage of the filter system as the paper itself has toxic properties being chemically produced itself.
2. Coconut activated carbon filter media. This is a common filter media for drinking water.
3. Sand filtration.

The application of these can be as follows:

Paper cartridge filter in one filter housing.

The activated carbon can have its own filter housing or be combined with the sand in a large sand filter. Most sand filters filter from the bottom to the top, so the activated carbon would be on the bottom of the filter and the sand on top.

Organic Coconut Activated Carbon was used and is recommended.

It is really as simple as that. This is the 2007 technology.

In recent times other filter media have been developed

that gets down to 1 micron of filtration. This is Activated Filter Media (AFM) which is defined later in this chapter.

There are tips and tricks about how to best set this up. One is that in the sand filter it is good to have ordinary pea gravel (wash the dirt off the pea gravel first very well) up to the point about level to where the filtering rods start pushing out the water up the filter. This makes for easier flow of the water through the filter media. It also saves on filter media as below these rods no filtration is done.

If you are using clay in the hot tub water and a paper filter, it is good to have a three way valve installed to bypass the paper filter temporarily. The clay will clog the paper filter after a short time and you will need to change it far too frequently. When you change the hot tub water (discussed below) you use the paper filter to thoroughly filter the fresh batch of water going into the hot tub. Filter the new water about 4 to 5 full cycles. In other words, all the new water is filtered at least 4 to 5 times using all 3 filters. Once this batch of fresh water is filtered in this way, then bypass the paper filter with the 3 way valve and use the activated carbon and sand filter for normal filtration. This provides good filtration for the period before the next change of water and saves on having to change the paper filter about every 3 months. The paper filter will last about a year when this is done.

OZONE

Ozone is a gas. Ozone molecules have 3 oxygen atoms unlike the oxygen in the air that gives life to the planet which has 2 oxygen atoms. Thus, ozone is an oxidizing agent. It oxidizes virtually everything and this is not good in many aspects. It can turns oils into oxidized substances which are very toxic. The EPA has set standards for outdoor air quality to protect public health and ozone is one element that is monitored and controlled as breathing it can cause health problems.

Ozone used in water treatments does not clean the water of chemicals. It is a biocide and destroys bacteria and viruses and keeps the algae from growing. We are concerned with eliminating toxic chemicals.

Hot tubs normally have a cover which is used to insulate the hot tub and keep the water hot when not in use to conserve energy. Algae won't grow without sunlight. Thus, there is no reason to be concerned about algae in your hot tub if you have a cover for it.

Aajonus had a concrete hot tub open to the sunlight and algae grew abundantly. It was about half an inch to an inch thick. It was like a silk lining and felt very nice.

Algae is not harmful as the pool chemists insist (in order to sell their chemicals). Algae in lakes is common and normal.

Ozone generators for a hot tub or pool are not recommended. Nor are ionizers. They create the situation of dissolving tissue when you bathe or soak in the water as well as the other factors as noted above.

Pool Salt Chlorinators

Salt chlorinators for pools provide a way to get nontoxic chlorine in the pool. These are electrical chlorinators. You put in rock salt which is basically sea salt. It is not cleaned or sterilized like table salt (Table salt has chlorine added to it.). The system sends an electrical charge through it and it converts some of the salt into chlorine that is a non-chloroform vapor type of chlorine.

Most pool services that service salt chlorinated pools do it differently which is not healthy. They normally use commercial salt provided by pool stores, not rock salt. When testing the water for pH and chlorine levels etc., if the salt by itself does not reach their chemical standards, then they add regular chlorine to the pool. This chlorine gives off chloroform vapors and contaminates the pool with the toxic type of chlorine. They use tablets or packets of chlorine in powder form which is called “shocking” the pool.

Needless to say shocking the pool is toxic and ruins your salt chlorinated pool water. The pool service companies have standards they are ordered to follow

to kill bacteria and keep algae from growing. They have insurance liabilities and are not concerned about a healthy pool per se or a 100% salt chlorinated pool using rock salt. It is best to learn to do it yourself using rock salt or untreated natural sea salt and not use the pool store salt. It is not difficult at all once you are trained on it and it will save you money.

If you have a pool and hot tub combination you can filter the pool water in the same way as the hot tub for cleaner pool water. Using the AFM and Healthy Home System pool filtration system, you will not need a salt chlorinated system and won't get algae.

If you are still concerned about the chemicals in the hot tub or pool you can get lab tests done to determine the chemical toxicity of the water by testing for each chemical one at a time.

More on pool filtration and clean pool / hot tub water

Recently a new filter media came on the market called Activated Filter Media (AFM) which is 3 stages (fine, medium & coarse) of ground glass and can be used in an ordinary sand filter housing. It filters down to 1 micron. AFM is currently being used with other products and the combination is promoted to be an excellent product for clean fresh non chlorine pool

water and whole house water filtration systems.

AFM can be used by itself with salt chlorinated pools or as a stage in hot tub water filtering system. The name of one company that is currently marketing this product and product line is Healthy Home Systems from Clearwater Florida.

AFM has a life span of up to 10 years when backwashed about every 3 to 6 months. Usage plays a role in how often the filter media needs to be backwashed.

I have not tested AFM as of this writing. Considering it filters to 1 micron and is glass which does not leach out any chemicals, it is very promising.

KDF Filter Media

KDF stands for Kinetic Degradation Fluxion. KDF® filter media. It is a high-purity formulation of copper-zinc granules which uses a process called oxidation-reduction (redox) reaction. KDF media exchanges electrons with contaminates changing them into harmless components.

The KDF filter media was not widely known about when Aajonus and I were involved with designing filters for hot tubs in 2007. Later in 2012 he did comment on KDF as a valid filter media as it reduces or removes many heavy metals out of the water.

One key factor with KDF is that when used in a

sequence of filtering *before* granular activated carbon, it can extend the life of the activated carbon significantly. This is important as the normal life span of KDF is about 6 years before needing to be replaced. Activated carbon is said to last about 1 year before needing to be replaced. Therefore using KDF first, the activated carbon's lifespan will extend. Regular backwashing can also extend the life of all filter media.

There are several types of KDF tailored to specific uses.

KDF 55 medium mesh is designed specifically for removing or reducing chlorine and water-soluble heavy metals. It controls scale, bacteria and algae even in hot water. Specifics include removing or reducing contaminants such as chlorine, bacteria, heavy metals, nitrates, nitrites, aluminum, arsenic, cadmium, copper, iron, nickel, zinc, lead, chromium, barium, hydrogen sulfide, mercury, radon, magnesium, calcium carbonate, bacteria, algae, fungi, and selenium.

KDF 85 medium mesh removes or reduces chloramines, iron, sulfur and hydrogen sulfide and heavy metals from municipal or other water supplies. This is a good one to use for a deep water well.

There are other types of KDF. These are KDF-C coarse mesh and KDF–F fine mesh. They do the same thing but are for designed for applications that do not apply to hot tub and pool filtration.

Activated Carbon

Activated carbon is also called activated charcoal which is misleading and confusing. They are not the same thing although similar. You do not want activated charcoal or charcoal as filter media. Only activated carbon. The activated carbon has been heated or otherwise treated to increase its absorptive power. The 'activation' process strips or removes the previously absorbed molecules. It is used to purify liquids and gases in a variety of applications including municipal drinking water, odor removal and industrial pollution control. Its source materials are carbon-like materials such as coconut shells, nutshells, coal, peat and wood.

Chlorine molecules bind with carbon molecules. So it is good to remove chlorine from water.

The recommended activated carbon to use is from organic coconut shells.

Activated carbon's life span on its own is about 1 year depending on usage. If KDF is used before activated carbon in sequence the KDF will extend the life of the activated carbon.

Sand

There are many types of sand on the market for sand filters. What is not recommended to use is sand from

the beach or child's play sand as this sand is not filtered or designed to be used in a filter.

#20 Grade Silica Sand is effective at filtering out debris as small as 20-40 microns.

Aqua Quartz and Palmetto are brand names of silica sand. There are other brands on the market.

Sand filter media is said to last 5 to 7 years.

Zeolite

Natural zeolite occurs in volcanic rock. Zeolite is widely used in domestic and commercial water purification and softening. Chemically, zeolite acts as an ion-exchange and separates molecules and only certain sizes and shapes can pass through. Zeolite is not sand. It reportedly has absorbing qualities double of that of silica sand. It removes ammonia from the water and is a much finer filter than silica sand and filters down to 3 microns.

Zeo Sand is a brand using Zeolite. Its life span is the same as silica sand which is 5 to 7 years.

Diatomaceous Earth

Diatomaceous earth pool filters and filter media are not

recommended. DE has a use in killing insects. Once eaten by the insect, it cuts insects apart and shreds them from the inside out. DE is not recommended to use as a dietary supplement in any way. DE filter grade type is high in crystalline silica and toxic to humans. Thus dealing with the filter media can be dangerous without personal protective equipment.

Water Filter Housings

A sand filter housing can contain just about any type of filter media. Hayward sand filters have served me well for many years and I have had no problems with them. I do suggest that they be covered by a canvas tarp or something to protect them from the sunlight and rain. When they are left out to the elements, the label showing the function options to select by the hand shifter fades. Also the rain can rust the little screws holding things in place on the filter control housing. One can build an enclosure for them like a little house or "dog house" or have some other cover for them.

There are several brands of sand filters on the market. The larger filters do not require changing the filter media as often.

BACKWASHING

Backwashing is flowing the water in reverse to clean the filter media and purge out sediment collected in the filter media over time. It "refreshes" your filter media. This is normally done when the hot tub water is changed (about every 2 months depending on use.) You do it until the water is clear as can be seen from the sight glass on the sand filter. It starts out turbid and you continue to backwash until the water is clear. This extends the life of the filter media and provides cleaner filtered water.

To perform this task, you make water flow adjustments on your filters and backwash one filter at a time. You put the first filter you want to backwash on the backwash setting or backwash mode. The other filters you put on recirculate. The water will run in reverse taking the water from the hot tub and pumping it out through the filter system backwards to the drain line of the filter and out to the ground.

Once the water is clear through the sight glass of the first filter, then rotate to the next filter putting the second filter on backwash and the others on recirculate. Repeat until all filters have been backwashed and the sight glass of each shows clear water flow. You may need to add fresh water to the hot tub to get each filter fully backwashed.

The owner's manuals of the filters have backwash instructions. They also have instructions for installing

the filter media. The procedure for adding filter media to the filter is reversed for changing the filter media.

Suggested filter system design

Considering all the info contained herein, I recommend the following sequence of filtration:

1. AFM
2. KDF
3. Activated Carbon
4. Sand.

I consider with this up to date filtering technology and adding Terramin clay to the water with salt and vinegar, one would have very clean water and a hot tub as close to a natural mountain hot spring as one can get!

With this system in place and proper backwashing being done, it is expected that the filter media will last quite some time. The sign of dirty filter media is when you change the water in the hot tub after backwashing and the water is still a bit turbid. Then it is time to change some filter media. With this system one could change the activated carbon every 2 years, the sand every 5 to 7 years, the KDF every 5 to 6 years and the AFM every 8 to 10 years.

Chapter Two

TYPES OF HOT TUBS, SOAKING BATHS, PUMPS AND HEATERS

Traditional Wood

A wood hot tub is a large round tub usually 4 feet deep or more used for hydrotherapy, relaxation or pleasure. Some have powerful jets for massage purposes. Our purpose is extended to detoxification.

A historical note - hot tubs were generally made from marble and the hot stones were added to raise the water temperature. Today there are marble and stone bath tubs or soaking tubs available. Some higher end homes have large stone hot tubs which are custom built.

5’ x 5’ Western Red Cedar hot tub with a cedar wood hot tub patented insulation installed.

5’ X 5’ Western Red Cedar wood hot tub nestled in the back yard in a city environment.

OFURO

A Japanese style ofuro tub (*ofuro* [oh-**foor**-oh]) is for 1 or 2 persons. These bath tubs are found all over Japan in houses, apartments and traditional Japanese inns (*ryokan* [**ree**-oh-kahn]) but are now usually made out of a plastic or stainless steel. The sides are generally square rather than being sloped. Some have rounded ends. If you can get one large enough it is possible for a normal size person to get his/her whole body into an Ofuro at one time. The Ofuro is set up like a bathtub. One can customize one as a hot tub if desired,

A Japanese style *ofuro* tub for 1 or 2 persons.

Acrylic Spa

Acrylic spas (also made from fiberglass) came about in the 1960s. In the mid 70's, spa shell manufacturers created the first somewhat portable spa. They did this by installing a cabinet around the shell and adding framework to hide the equipment under the wood skirting making it a self-contained unit. These units today are mass produced and do not hold much water, normally being only about 2 to 3 feet deep. Some are round like a tub but most have slots molded for a person to sit or lie down.

These are not recommended for our detoxification purposes. First, they have the pump and heater near where you soak, so you are bombarded by EMF. The fiberglass or acrylic may leach into the water although this has not been tested. If you ever try to use one for the long soaks needed for detoxification you may find that they are uncomfortable due to the pre-molded permanent seat slots. There is not much room to move around or stretch out and relax. If well taken care of, it has been my experience they have a lifespan of about 4 to 8 years. The acrylic shells have a potential to crack. Exposing the shell to the sun speeds their wearing out which will increase the possibility of them cracking and leaking.

Most are designed for ease of use, just buy it – the company that sells it to you will deliver it – get it placed

and plug it in to 110 volt mains. But as mentioned above, the pump and heater need to be re-located due to the EMF. There is a trade off with using 110 volts. It can be more convenient than running a 220 line, but it takes twice as long to heat up the water using an electric heater. No power is saved using a 110 volt system.

One advantage to them is due to the smaller amount of water acrylic spas use and the fact they are normally well insulated for an electric heater set up, they do not cost much to power compared to a wood hot tub heated with an electric heater. A wood hot tub with triple the amount of water heated with natural gas costs about the same to heat as an electric acrylic spa.

A wood hot tub properly built and cared for will last 15 to 20 years. A marble or stone hot tub will of course last almost forever unless damaged.

An acrylic spa (this example made from fiberglass).

Blow up plastic hot tubs & metal soaking tubs

These types are not recommended. The plastic tubs would leach into the water. The metal tubs would have tiny metal particles or metal ions leach into the water.

Free hot tubs

It is common for these acrylic hot tubs to get used up or someone bought it for a fad or on impulse and they no longer want it. They place it for sale on the used market for a small price or for free. One must be alert to the fact that often these are junk and damaged. They are very difficult to move. Thus the owner is happy to give it away to avoid paying $300.00 or so for someone to come and take it away. Some good ones can be found on the used market that do work fine. I have found these are few and far between. If you get one, it needs to have the pump and heater re-located far enough away from the soaking area so you are not affected by the EMF when soaking.

Types of pumps and heaters

The natural gas heater is the most economical by far.

Next in line is propane and last is the electric heater. The cost of running these depends upon: how long it is run, how hot, the ambient temperature, how far the plumbing is from the heater to the hot tub, if the plumbing lines are insulated or not and the insulation qualities of the hot tub.

I have used Pentair pumps and natural gas heaters and done well with them. I have had very poor results with Raypack electric heaters. I have had good success with Hydro-Quip electric heaters. There are many brands on the market to choose from.

Wood fired or wood burning heating systems for hot tubs are hot tubs with a wood fire in a metal box in the water that heats the water through conduction. Another type of wood fired hot tub is having nearby a wood burning stove. The water is run through plumbing to a heat exchanger that is heated by the wood burning stove. With these, it is extremely difficult to maintain a constant temperature and they are therefore not recommended. Wood burning heating is very labor intensive in regard to starting and maintaining a fire and cleaning up the ashes.

There is no specific pump or heater exclusively for hot tubs. Pool heaters and pumps are simply adapted for hot tub use.

The money savings with natural gas is worth the installation time and cost. Electric heaters are the easiest to install but the cost of running them can be 5

times or more than a natural gas heater.

When gas heaters are not in use, carbon deposits can start to corrode the interior cabinet and will cause you problems. This is why it is a good idea to start your heater and run for at least 5 minutes at least once a month.

With natural gas heaters, the higher the BTU rating, the faster the hot tub will heat up. A 100,000 BTU heater is plenty for a hot tub and raises the temperature about 7 to 10 degrees per hour. The market is always changing with pool heaters and pumps.

Pumps vary depending on horse power and size of piping. I have had good success with Pentair Veriflo pump. It is run on 220 volts and is designed to save as much as 90% on electricity compared to regular pumps and is very quiet. It has 2 inch PVC plumbing going in and out. It is also programmable. Heaters are designed not to work without water flow. Therefore having a programmable pump is very convenient as you do not then need any kind of programming with the heater or any other part of the system.

Chapter Three

BUILDING A WOOD HOT TUB INTRODUCTION

Wood Selection

Most companies that sell hot tubs also sell hot tub kits that you assemble yourself. Most are made from Western Red con heart cedar. Con heart means it comes from the heart or middle of the tree. This wood has the straightest grain with no knots. It stays the straightest and is resistant to warping.

I researched buying a hot tub kit versus buying the wood and making my own hot tub from scratch using Western Red cedar con heart wood. I found that the big companies buy wood in large wholesale quantities and a single guy buying can't compete with that price. It is easier and cheaper to buy a hot tub kit and assemble it yourself.

Another option is to purchase a ready built hot tub from one of these hot tub companies and have a trained person do the installation for you.

Both redwood and cedar have the best swelling and wood rot resistant properties of any wood which makes them the best choice for a hot tub. The con heart vertical grain wood is less likely to naturally bend or warp and should last 15 to 20 years.

Redwood hot tubs are not sold by companies anymore as when hot tubs got popular in the late 70's to early 80's the planet was running out of redwood so laws were enacted to protect the redwood trees. Cedar then became the wood of choice for hot tubs.

Other types of wood can be used to build a wood hot tub. Douglas fir was used commonly in the past for making ships. White oak and pine can be used as well. Alaska cedar is reportedly a harder wood than Western Red Cedar and lasts 20% longer.

The wood selected must be kiln dried with vertical grain. Kiln dried wood expands making a water tight seal when you add the water to the tub. The metal straps that surround the hot tub are bound tight with the dried wood as it is assembled. However, it is the swelling that creates the seal. It can take 4 to 6 days for the wood to expand out fully and become water tight. Leaking is normal until this process is complete.

Knotty wood should not be selected for a hot tub. It can

be used if the knot is only partly on the surface of the wood and does not go all the way through the board. If the knot goes all the way through you will get trouble. The knots may not swell very well and may also warp after a few years. A knot can leak after a while and even rot out or pop out in which case you will have a hole in your tub. The repair of a hole is not practical. Perhaps the stave can be replaced. It is better and easier to just pay the extra money and get wood with no knots.

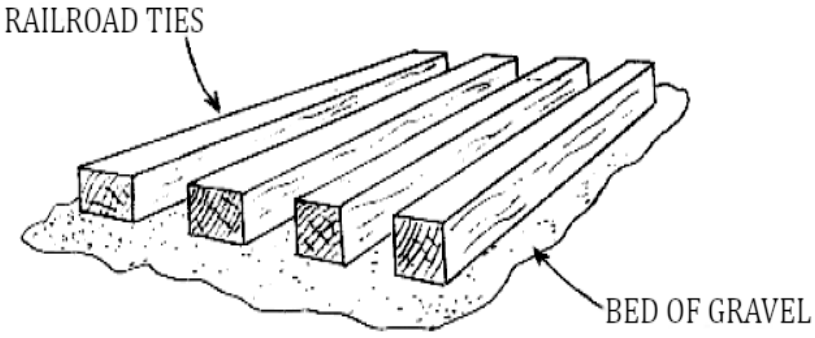
Foundation

Concrete is best. The foundation needs to be level and solid. A 4 inch pad of concrete is standard and recommended. This is the standard thickness of a driveway. You do not need steel mesh or re-bar for a 4 inch thick concrete pad.

You can mount a hot tub on a wood deck but it would probably need reinforcement to hold the weight of the hot tub and water. A 6x4 hot tub with water weighs about 6200 pounds. Thus, the wood deck weight bearing capabilities would need to be evaluated to see if reinforcement is needed.

Concrete foundation alternatives

If you do not have or do not want to build a concrete slab for your hot tub there are other options. One is railroad ties. Space them every 12 inches or 14 inches on center. You can place them on gravel or just the dirt. Realize if you place the ties on the dirt they will eventually rot out from the dirt moisture even with the creosote coating.



Another option is to use a 6 to 8 inch gravel bed upon dirt.

Partial underground hot tubs I have found not to work well. The wood gets wet and can stay wet next to the ground. The wood can't breathe well and dry out well. This causes the wood to rot out much faster than its usual life.

Wood hot tub kits and data on brands and bands

Each hot tub manufacturer that sells pre-built hot tubs or hot tub kits to assemble has their own proprietary method of adjoining the staves and putting together the hot tub. Each company by their own design is vying to be "the best and only" but in actual fact, all they are doing is trying to make it so a table saw is not needed for the last stave. Many people don't have a table saw or are not trained to use one. I have found to get the best results the last stave is *always* a custom cut needing a table saw. The angles and width are different on the last stave for each hot tub. There is no way around this really for the perfect fit. Yet the hot tub companies do try with their methods and often they do work fine.

Each hot tub company sells steel rings or hoops that surround the hot tub and hold the tub together. This is similar to a wine barrel. I have used a few types over the years. They all work fine really. Thus, if you are building your own tub from scratch, just get the hoops you feel are the best from one of the companies. If you buy a kit, the hoops or rings will come with the kit. The companies I have worked with are Robert's Hot Tubs in northern California; Snorkel Hot Tubs in Seattle Washington; and Northern Lights in Canada.

Another hoop/ring option is a silo distributor.

Another is to get 2 to 3 inch metal strips the length of the circumference of the hot tub with threaded bolts welded into them. Or get a 90 degree edge with a bolt hole on each end of the hoop. Then insert a nut and bolt to tighten. The welding can be done by a local welding shop. Another option is a cable; form loops at the end and secure them with clamps. Then use a turnbuckle to tighten them. A plastic shield should be placed around the turnbuckles to protect the wood while tightening. There are many varying designs.

Chapter Four

BUILDING A WOOD HOT TUB FROM SCRATCH

TOOLS NEEDED

- Table saw with sharp blade
- Protractor – used for measuring the angle cut of the staves
- Chop saw or circular saw
- Compass - Can be a pencil on a string or pencil in a board (more accurate) which is used for marking the floor board circumference cut
- Drill and drill bits
- Doweling jig - used for pre-drilling holes for dowels in the floor boards
- Saber saw or jig saw (same thing) for circular cuts on the floor board

- Dado blade for table saw - for cutting staves to fit the floor board
- Blue masking tape - To hold stave up while you put others in place
- Rubber mallet – for securing the staves to the floor board
- Wood hole cutter (hole saw) for cutting plumbing holes
- Belt sander or sand paper and sanding block
- Reciprocating saw or chop saw for cutting PVC piping.

Materials required

- Staves 2 x 6. Floor boards 2 x 12. Benches 2 x 8 or 2 x 10. The amount of wood and lengths of each depends upon height and width of the hot tub. (See grid of info below) It also depends on how many benches you desire.
- Several 2 inch dowels for building the floor
- 1 x 3 ordinary lumber 6 feet in length. Get 4 of these
- Outside waterproof screws. 1/58th long and 2 inches long for the bench supports
- Rings or hoops for surrounding the hot tub to hold it in place
- Support beams for the hot tub (also called "chines")
- Hot tub cover.

Hot tub size and selecting number of staves

The wood for the staves is to be 2 x 6 nominal wood.

Table for number staves and angle cuts:

Tub Diameter:	Cutting angle:	#of Staves:	#Gallons
3 Feet	8 degrees 30 minutes	23	262
4	6 degrees 30 minutes	30	420
5	5 degrees 18 minutes	37	615
6	4 degrees 15 minutes	45	869
8	3 degrees 6 minutes	60	1117

The gallons measurement is based upon a 4 foot tall hot tub. If you wish a 5 foot tall hot tub, the angle is the same but the stave is longer of course and it will hold more water.

Base support of tub

They can be simply 6x6 or 4x6 pressure treated beams. This supports the floor of the hot tub and they rest on the concrete slab or other foundation.

Procedure

Decide on size of the hot tub you want to build

1. Procure the materials and tools

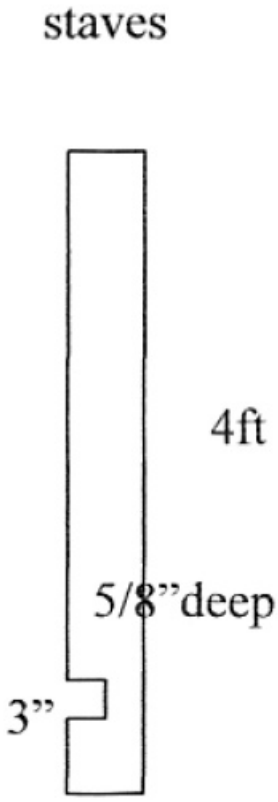
2. Get the angle for the staves from the grid that you will use for the cuts
3. Set up your table saw using the protractor so you can cut the staves to the correct angle
4. Use less expensive wood for a test cut. Adjust the angle as needed so it is exact as per the angle laid out in the grid
5. Bevel cut all the staves using the table saw and the angle of the staves per the grid except for 1 stave which you will cut last. You are cutting this bevel on both sides of the stave.

   You are making a custom sized trapezoid. It is this angle that forms the round tub by putting all the pieces (staves) together.

   Trapezoid:

6. Using the table saw and dado blade, notch all the staves to accept the floor. Measure 3 inches up

from the bottom of the stave and make the notch there. The notch is to be 5/8th of an inch deep. Make the width of the notch 1/16th to 1/8th *less* than the width of the floorboard so it can fit tightly around the floor.



7. Clean any burs and edges off the staves and keep them dry.

8. Collect up the floor boards and square them off with the table saw so they fit very tightly together. Just trim off like 1/16th of an inch or a saw blade width on the edges to do this. You want these boards totally flush with no gaps.

9. Set up your drill with the jig to drill holes in the ends of the floor boards to accept the dowels. The jig is used to ensure a square hole is drilled. Set it up to drill a hole in the center of the floorboard edge.

10. Drill the one dowel hole 3 inches from each end and two others spaced in between so there are 4 dowels total. You will need to measure accurately both sides of each of the floorboards which are to fit to themselves using the dowel holes. You want them to align easily when assembling and be flush with each other. If there is a bit of wood hanging jaggedly off at the *end* of the board that is okay. The ends will be cut with the jig saw to form the circular floor.

11. Lay out the floor boards.

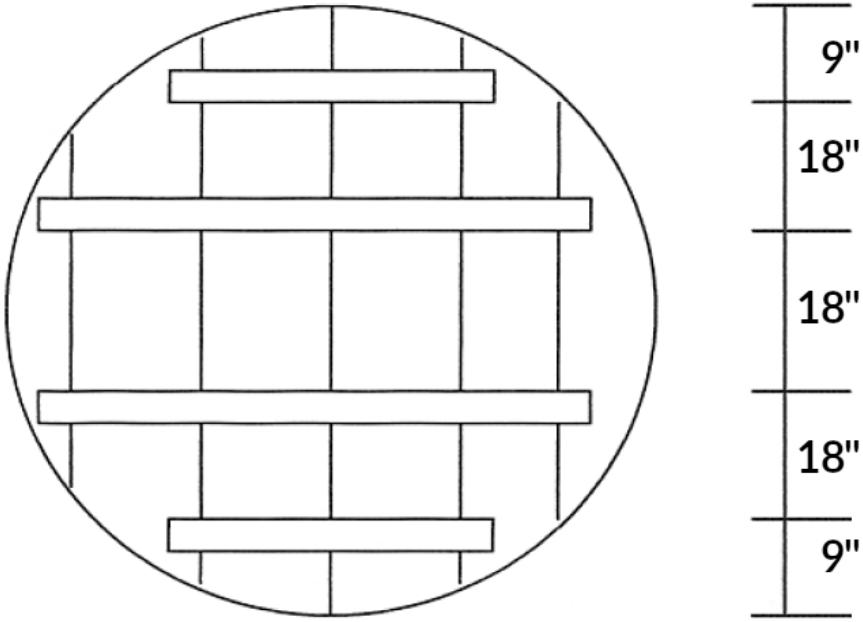
12. Drill each dowel hole 1 & 1/8th deep in each floor board that will be connecting to each other.

13. Insert the dowels and using a rubber hammer, gently drive the floor boards together.

14. Once the floor boards are tightly together, using

the 1 x 3 nominal wood, secure the floorboards to themselves using 1 & 5/8th inch screws. You will need to cut the 1 x 3 to size. Space these evenly across the floorboards. Be careful to not drill through the whole floor board, (but you should not be able to with that size wood and screw.)

15. This will be the bottom of the floor.



16. Draw the circle for the circumference cut. For a 6 foot tub, measure 3 feet into the floor boards now assembled and find the center. Take a nail and put it into this center just enough to hold it in place. Take a string and create a noose in it.

Put the noose around the nail. Mark out 3 feet from the center and attached a marker to the string. Then draw your line. This is for a 6 foot in diameter hot tub. A larger or shorter diameter would have a different measurement accordingly.

17. Now that the line is drawn, carefully make your circumference cut with a jig saw. Make sure your jig saw is properly set for a 90 degree cut.

18. With a light sander such as an orbital sander or by hand, chamfer both edges of the floor to aid in the attachment of the staves.

19. Flip over the floor and place it on the support 4x4 or 4x6 beams and get it even and supported. The floor should have about 2 inches of working room on the sides to allow for the stave installation.

20. Install the staves one at a time using the rubber hammer to secure them in place. Use the blue masking tape to hold them together as you go along. You may also need some kind of brace. Do not pound the staves in completely at first; this will help to snug up the staves to each other as they come together at their angles. Once you have installed several staves, go back and pound them in completely. Make sure you pound the staves in sideways as you go along. Repeat these steps as you go along.

21. The final stave is a custom cut as the angle is dictated by the width and it is bound to be different. Measure at the bottom both inner and outer angle with a protractor. Re-measure and cut a test piece to fit. Set this mock stave in place and if the angle and width are correct, then cut the final stave with the proper wood. If not, re-measure and adjust until you have the correct fit for the final stave. Then install.
22. Make your cut for a drain in the floor if you are going to install a drain.

Ring Installation

For a 4 foot tall hot tub, the first ring is set directly at the edge of the floor where the staves meet the floor.

Tighten them snugly.

The second ring is at 12 to 14 inches from the bottom of the floor.

The third ring is set at 44 inches or so.

The forth ring is placed near the top, about 6 inches down from the top. I recommend 4 rings for a 4 foot tall hot tub and 5 rings for a 5 foot tall hot tub.

Stagger the lugs of the rings so they are not all in a row going up the hot tub.

Tighten the bottom ring as well as you can. Take the rubber mallet and pound on the ring to tighten the wood staves into the floor even more. Then re- tighten the ring again. Repeat.

Continue on up without the mallet on the upper rings. Then start again at the bottom until the rings are about as tight as you can get.

Plumbing and plumbing cuts

Once the rings are installed on the hot tub, now is a good time to measure for the plumbing holes and cut them. You will have 2 intake holes a minimum of 3 feet apart and about 3 inches up from the floor. If they are closer than 3 feet apart it is a safety hazard as the suction can potentially drown someone. The water

inflow hole should be higher on the wall of the tub about 3 feet up from the floor for a 4 feet tall hot tub. Cut the plumbing holes so it is tight fit for the fitting and secure with silicone waterproof sealant.

If you desire to install jets, more holes will need to be cut for this additional plumbing. You will need to obtain

a design or plan for the jets and work out where the holes for the jets will go. If you get a hot tub kit from a hot tub company, they can provide installation instructions for the jets. They should also have a jet diagram and other information to assemble your hot tub.

It is a good idea to install couplers on both sides of each filter so that the filters can be removed easily for changing the filter media in the future.

Flex (flexible) PVC can be obtained from your local pool store. Ordinary hardware stores do not normally carry Flex PVC.

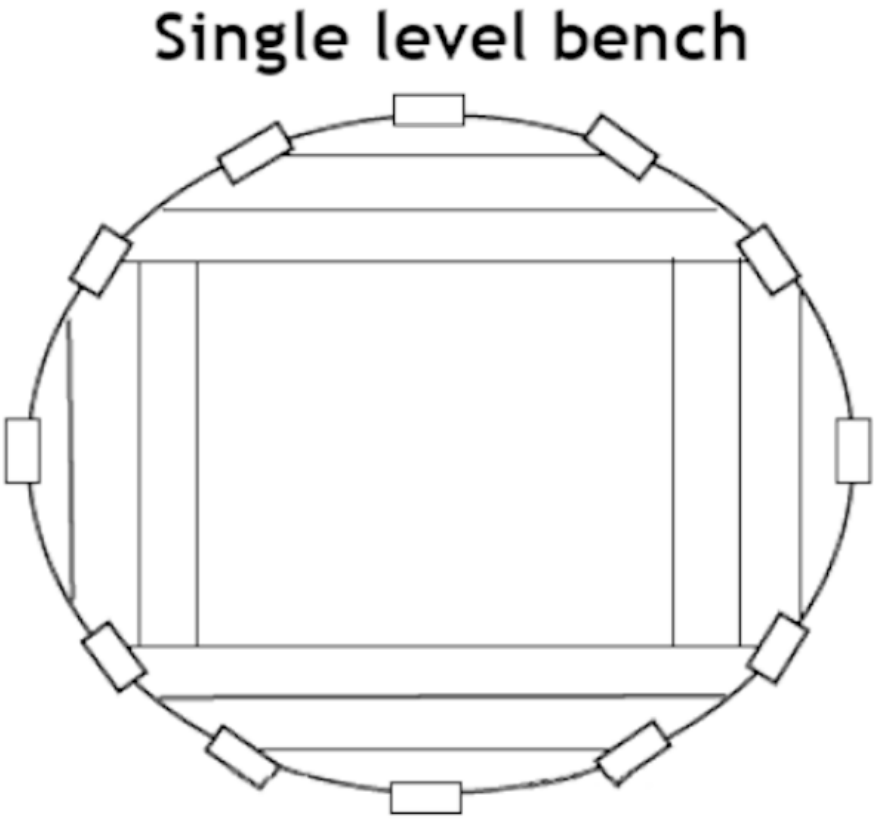
Basic plumbing knowledge is required for the installation of PVC plumbing for the hot tub pump, heater and filters.

Sunlight (UV) will make PVC brittle over time. It is recommended that the pipe be protected from sunlight exposure for permanent above-ground PVC pipe installations. The easiest way to do this is by painting the pipe. A water-based paint designed for exterior use is best.

BENCHES

To measure for the bench, take the wood to be used and lay it on top of the tub. Go under it and scribe the angle along the inner edge. Cut the marked line with a

jig saw. Save the pieces. Measure and get the height you want for the bench. Then make blocks or ledger pieces to support the bench from the scrap pieces you have. These ledgers will be about the width of a stave or a bit smaller. Measure and mark where you want the supports to go. Mark the screw holes for mounting the ledger blocks. *Do not screw into the seam of the stave.* Have the screws for the support blocks for the bench lined up to be at least one inch away from the seams. Pre-drill the holes in the ledger blocks. Set the ledgers into place using a level and screw them in. Install the bench on top of them and counter sink the screws holding the bench in place. Use stainless steel or deck screws that are waterproof. Be sure the screw is not too long when installing the ledger blocks. *Do not penetrate the wall of the hot tub with the screw.* Allow at least 5/8th of an inch minimum space to the outside wall. 3/4 of an inch is plenty to secure the block and this is half the width of the 2 x 6.



Repeat for more benches of different heights as desired. The diagram above is for one bench the same size for the entire tub. I recommend smaller benches. Perhaps two benches of different height about 2 to 2.5 feet long. This allows for space with no benches so there is more leg room.

Sanding

Sand along the top lip of the tub very well so there is no chance of splinters. Sand all around the tub as needed.

Stairs

There are a variety of ways to get in and out of the hot tub. Simple wood stairs are good. There are a few different designs and preference that take a role in this decision as well. Pre-made stairs are available from most companies that sell hot tubs which are easy to assemble or you can design and build them yourself.

Shelves

Many hot tub companies sell shelves to attach to the outside of the hot tub. These come in very handy for setting drinks on them or placing a monitor to watch movies. But be *very careful* when placing electrical components near a hot tub as if the wires get into the water with you in the tub you can get shocked or even electrocuted to death if the 120 volt mains get into the water.

Chapter Five

HOT TUB COMPONENT SET UP

Sequence of components for plumbing

The plumbing sequence is: pump to filter system to heater to hot tub and return to pump.

The filter goes before the heater so you don't plaque it up with dead cells coming off your skin. The vinegar will help keep the sea salt from corroding the heating element.

Due to the electromagnetic fields (EMF) created by the electric heater and pump, it is healthy to have these at least 4 to 8 feet away from the hot tub where you are soaking. You can check this with an EMF meter. Being near EMF above 3 milligauss for extended periods of time is not healthy for the body. The other side of this is that the shortest distance from the pump and the least

amount of piping twists and turns makes the pump's job easier and is less expensive to operate. The length of the piping should be as short as possible.

The plumbing to use is PVC schedule 40 whether 2 inch or 1.5 inch. You can use schedule 80 for runs coming directly out of the heater if you wish. Schedule 80 is designed for higher temperatures. But schedule 40 is designed to handle up to 140 degrees F and works fine.

Be sure to install check valves in the plumbing so water is not allowed to backflow into the hot tub.

Jets

The jet bubbles in a hot tub are fun and have a massaging effect but they are not necessary for the purpose of lymphatic decongestion and detoxification soaks. They cost additional money and installation labor and they are noisy. If you want to watch a movie or relax reading, etc., they can be a distraction due to the noise and water agitation.

Swelling processing and sealing the hot tub to water tight

When starting out the swelling process to water seal your tub, use about 6 to 8 inches of water (hot water if

possible) and let it sit for a few days. Fill it back up to 6 to 8 inches if it leaks too low during this period. Keep at this until it no longer leaks out and the wood is swelled at that level. This will save a lot of water compared to filling it up to the top and letting it all leak out. Once this first 6 to 8 inches is sealed, then fill the whole tub to the top. It will take about 4 days for the swelling processes to complete at which point the hot tub is water tight.

Hot water causes the wood to swell much faster than cold water.

A drain in the floor of the hot tub must be properly installed or it may leak. Without a floor drain you won't have that risk but getting all the water out of the tub requires a different procedure. The method used to evacuate the water from the tub with no drain is to pump most of the water out using the drain lines of the filters (you can backwash at the same time). You then use a wet/dry shop vacuum to suck out the last bit of water (about 4 inches). Do not run the pump without water as you may damage the pump. Thus, you need to monitor this process and shut off the pump before it starts to suck air from the water inlet lines. You fill the hot tub with water using a garden hose. It is suggested to change water every 6 to 8 weeks if you are using the hot tub daily.

NEVER apply any type of wood sealer or wood preservative to the inside or outside of your tub. Leave

it unfinished and natural. These products may by harmful to your health. They may also keep your tub from sealing properly. The wood is best preserved by keeping the outside dry and allowing it to breath.

Keep water in your tub at all times. Water causes the wood to swell, which is how the tub seals. If the tub is allowed to dry inside, the boards will become loose and the tub will leak. If you must drain the tub completely and leave it dry for a period, be sure to re-tighten the stainless steel bands before refilling.

If after all these steps, the tub still does not seal water tight one remedy is to put sawdust into the water. The sawdust works its way into the tiny crevices and helps to seal the tub. You can also use clear 100% silicone adhesive around the bottom of the tub where the floor meets the staves if desired. This decision to use the silicone would need to be done before you put in any water when the wood is dry. Some hot tub companies recommend this and it is included in their assembly instructions. I have always been able to seal a hot tub when properly built using only sawdust as needed.

How to extract tannin from the wood of a new hot tub

Newly harvested wood soaking in water will expel tannin into the water. The water looks like dark tea. If

you soak in it, your skin takes on the color somewhat and it gets into your body via the pores. This is not recommended. Some wood has this issue more than others. If you have an excessive amount of tannin coming into your hot tub water, it is recommended you do a treatment to get it out before taking long soaks in your hot tub. The majority of the tannin can be extracted from the wood by getting about a gallon of soda ash (available from a pool supply store) and putting it into the water and letting it sit for a couple of days. Then rinse it all out. This pulls out the majority of the tannin from the wood. Once this process is completed, fill the hot tub with fresh water.

Chapter Six

OTHER INFORMATION ON HOT TUBS

Hot Tub Transportation

To move your built hot tub you would first (obviously) drain out all the water. Then get about 5 or 6 guys to lift it onto a truck. Another option is to get it onto a pallet. Then using a forklift and pallet, put onto a truck. It is similar to moving a piano. Taking out the waterlogged seats is also helpful as this cuts down on the weight of the hot tub.

Disassembling it and reassembling it would require drying of the wood before rebuilding. The drying of the wood could take 3 months or more in a hot and dry climate with the wood properly stacked so it does not warp. Or it could be taken to a place there they kiln-dry wood and have them dry it. Once fully dry you would have to re-build the hot tub. It is easier to move it built.

When you have the hot tub into its new position, you will need to re-tighten the bands and re-seal it as the staves will shift during moving.

Cleaning

Empty the tub of water. Use organic apple cider vinegar as a cleaning solvent. Pour it on the inside walls of the hot tub and scrub with a brush and rinse. Vacuum with a wet/dry vacuum or simply drain it out if you have installed a drain in your tub and rinse it out. You can do this a few times if necessary. Ordinarily it is done once every time you change the water.

Winterizing

If you live in a climate where it gets below freezing for any length of time you need to ensure your hot tub is programmed to keep warm and not freeze.

The other option is to turn off your system. To do this you must drain the water out of all filters, the heater, plumbing lines and pump. Open up all the valves to the pump and heater and drain plugs of the filters. Then set the filters to “winterize”.

If your climate is below freezing and power goes off or the pump shuts down, you have about 2 hours to get

the pump and heater working before the cold will freeze and damage your system. If you can't heat the system in about 2 hours then you must drain the system quickly so that it does not freeze and damage the equipment. The freezing water will expand and break or crack the plumbing pipes and housing of the pump. It may also damage internal parts of the heater. It is a very costly mistake!

Low water level can also shut down the pump unexpectedly.

During the winter, the water must stay at 65 to 70 degrees F minimum to avoid freezing.

Safety

There are rules and regulations regarding pool safety which also apply to hot tubs. It is best to simply know and follow these rules for your local area.

Hot tubs and cold dip pools should be fenced in and kept out of the reach of unsupervised children. One simple solution is to get a hot tub cover that locks. A lock is a normal requirement when you purchase a hot tub cover. Check your local municipality on the regulations but having a locking hot tub cover and the hot tub in a fenced yard may be all you need.

There are safety factors for safe hot tubbing.

If you build your own hot tub following these instructions, purchase your own heater and pump, etc. , and do the installation yourself, you do so at your own risk and responsibility.

Soaking in a hot tub above 104 degrees F. is considered by some US regulatory groups as unsafe. No proof exists that this is actually dangerous for a healthy person. No laws have been established to enforce hot water temperatures for anyone. Today in Japan many bath houses have water temperatures that go up to 113 or 115 degrees F. They use the higher temperatures for short soaks. Up to 107 degrees F is standard for the hot springs (onsen) in Japan for long soaks. The Hammam for Turkish hot baths (steam room) average 113 degrees F. Saunas and other steam rooms reach much higher temperatures. Saunas are typically 150 to 195 degrees F. For our uses with the hot tub and our own research for the hot water detoxification, 110 degrees F is our high limit.

In the USA, pool heater companies are regulated to have the thermostat high level set at 104 and are not allowed to have markings on the thermostat that go above 104. Such regulatory groups purport that in 106 degree F water or above heat strokes are a possibility. Yet they provide no evidence that such has ever occurred as a direct result of soaking in hot water at 106 degrees F or higher temperatures. A heat stroke is a very extreme condition and no one I know doing hot tubbing as suggested in this book has ever come close

to such.

Such regulatory groups also state that there is a possibility of even 104 degrees F water causing fetal damage during the early months of pregnancy and a pregnant woman should not soak in a hot tub in temperatures above 100 degree F in general. Other warnings include that the elderly, obese persons and persons with a history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a hot tub. Persons using medication should consult a physician before using a hot tub since some medications may induce drowsiness while other medications may affect heart rate, blood pressure and circulation.

Some pool heaters used for hot tubs may not go higher than 104 or 106 degrees at its highest thermostat setting. I had a Pentair Mini-Max 100 (100,000 BTU) with an analog thermostat that went as high as 112 degrees F. (This model is no longer made.) The heater you purchase should be tested to see how hot it gets. If the heater you have does not heat to the desired 110 degrees F it will need customization for it to do so. One simply needs to install a thermostat that will allow the heater to heat the water to the higher temperatures. A mechanical contractor or HVAC contractor is trained on how to replace or install a thermostat in a pool heater.

Anyone can get 110 Degrees F hot water in a bathtub

from the home hot water supply. Hot water heaters for the home can go as high as 150 degrees F. Most home tap water is set at about 115 degrees F.

Prolonged periods of exposure to high water temperatures can raise internal body temperature and this is what we want for detoxification. It will occur when soaking in temperatures from 105 up to 110. When done correctly, this is healthy for detoxification. Research and experience show these temperatures when dealt with responsibly are totally safe.

It is smart and recommended that you know your body and introduce yourself to hot tubbing as laid out in this book gradually. Test the waters. Listen to your body and intuition in terms of how hot you want the water to get and for how long. Normally, the more one gets used to the hotter temperatures the more enjoy and desire them. Then 104 degrees F seems almost cool!

For me personally, I like to start at 108 to 109 F. And take short cold dips to keep me going. The first time I heated up hot and jumped into a cold dip pool I got dizzy and my heart started pumping fast with the shock of the temperature difference. To me this is a blessing! It felt great! To others who are perhaps fearful of this level of physical exertion, then perhaps this high level of circulation and health approach is not correct for you.

An unhealthy person may have issues with their body's ability to regulate temperature. This also applies to

children. High body temperature can affect people differently. Too much heat may result in nausea, dizziness or fainting. Just as if you were out in the sun all day at 93 degrees F (or higher), one can get dehydrated or get exhausted when not dealing with such conditions correctly. For example drink enough fluids to stay hydrated; take a break from the heat, etc. One must understand such things and be prepared to prevent uncomfortable conditions and know how to deal with them if one overdoes it. This is just common sense.

Until you become familiar with your body's reaction to hot water immersion at various temperatures, you should limit your hot tub time and temperatures. Once you get used to it make your judgements accordingly.

The manufacturers of pumps and heaters provide their own safety recommendations and installation requirements. All electrical hook ups are to be done in accordance with NEC standards and ideally such work should be performed by a licensed electrician. The gas lines as well should be installed by a licensed person who knows the local codes and requirements to do a standard and safe gas line installation.

Insulating your wood hot tub

If you would like to insulate your wood hot tub to save energy costs please go to lifegivinghottub.com and fill

out the contact form. This is a patented design that is sold separately. It is something that you have to build yourself or hire a carpenter to build around your wood hot tub. It will help save on energy costs for operating your hot tub by an estimated 10% to 20%.

How to test the accuracy of a thermometer

Many thermometers do not register a totally accurate temperature. They can be off by a 10th of a degree to as much as 3 degrees. The way to test the accuracy of a thermometer is to place the sensing probe into fresh (not salted) ice water using mostly ice. Water freezes at 32 degrees F. The ice water won't get to an exact 32 degrees as the ice is melting. But the thermometer reading should get pretty close to that. If your thermometer is too far off, you should get a more accurate one as desired.

Assistance

Hot tubs deal with water, plumbing, electricity and natural gas or propane. A pool contractor should have the knowledge and license to install a hot tub for you in all aspects or hire sub-contractors to do the work. But this may not be the case in all areas. In this case one would need to get someone trained in each trade separately.

If you have any questions go to lifegivinghottub.com and fill out the contact form and for a fee get any questions answered.

Happy hot tubbing!

Glossary:

Appendix: the appendix acts like a library for any poison that has ever entered your body and is a record of how your body needs to respond to it. It is part of the immune system. For example, tiny traces of all the snake bites, bee stings, etc. are stored in your appendix like an indexed library. Let's say you get bitten by that same snake again, your body will know instantly by going to the appendix for data what remedy or anti-bodies are needed to deal with that poison. Then the body activates that remedy within twenty to thirty minutes. For those that have had their appendix removed when that same poison enters the body again, the body's chemistry must re-evaluate the poison newly to respond and this process can take up to 36 to 40 hours.

Aquifer: an underground layer of water-bearing permeable rock, rock fractures or unconsolidated

materials. Groundwater can be extracted from an aquifer using a water well.

Aspartame: the second best selling non-sugar sweetener in the world yet dangerous. Researchers in Italy concluded that rats exposed to varying doses of aspartame throughout their lives developed leukemia, lymphomas, and several other cancers. It is hidden in many common foods and beverages. When your body processes aspartame, there's a part of it that gets broken down into methanol. Methanol is toxic in large quantities. Once this methanol is in your body, it is converted into formaldehyde, which can wreck your DNA and sensitive proteins. A few of the disorders that can be caused by aspartame are birth defects, cancer, diabetes, emotional disorders, epilepsy, and seizures.

Bevel: a slope from the horizontal or vertical in carpentry and stonework; a sloping surface or edge.

Carbonation added: made by chemical synthesis. A chemical reaction created with sodium carbide or another chemical. It is a chemically produced carbon dioxide and is toxic. This type of carbonation causes radicals or free radicals, resulting in mineral and oxygen deficiencies and sometimes
it can cause a headache.

Chamfer: to "ease" otherwise sharp edges. A sloped or angled corner on an edge.

Chelation therapy: the use of chemicals to attract heavy metals such as lead, cadmium, mercury, and plaque from soft tissues such as organs, veins and arteries in order to be eliminated them from the body. Research of over 200 cases has shown that the body does not discard most of those toxins attracted. Yet the added chemicals of chelation and the heavy metals and plaque so attracted re-store in the body in other areas such as the lymph system, skin, connective tissue, bones and bone marrow. Therefore, chelation therapy is considered as harmful to the body as chemotherapy.

Chemtrails: chemtrails refers to the theory that governments or other parties are engaged in a secret program to add toxic chemicals to the atmosphere from aircraft in a way that forms visible plumes in the sky. Various different motivations for this spraying are speculated, including reduction of life expectancy, sterilization, mind control or weather control.

These chemtrails are clearly visible in the sky and remain in the atmosphere for hours until dissipated. These are not the same thing as contrails at all. (See contrails in this glossary.)

Laboratory examination of chemicals found that they are sourced manufacturing wastes from military

industry and bio-warfare substances. Several laboratory analyses revealed the composition of chemtrails as:

1. Aluminum Oxide
2. Aluminum barium
3. Pseudomonas Aeruginosa
4. Bacilli and molds
5. Streptomyces
6. Serratia Marcscens
7. Pseudomonas Florescens
8. Human white blood cells - A restrictor enzyme used in research labs to snip and combine DNA
9. Bacilli Amyloliquefaciens
10. Desiccated (dried out) blood cells
11. Enterobacter Cloacal
12. Enterobacteriaceae
13. Carcinogen Zinc Cadmium Sulfide
14. Other Bacilli and other toxic molds capable of producing heart disease and meningitis as well as acute upper respiratory and gastrointestinal distress.

Chemtrail researcher Cliff Carnicom concludes that crimes of the highest order are being perpetrated against citizens without their knowledge or consent. Although chemtrails are frequently reported, the US Government continues to deny the existence of chemtrails.

Chines: the support beams under a hot tub that supports it.

Chloramine: an organic compound containing a chlorine atom bonded to nitrogen used for antiseptics, disinfectant and treating water. It is formed when ammonia is added to chlorine to treat drinking water.

Coconut Cream / Coconut Milk: an opaque, milky-white liquid extracted from the grated pulp of mature coconuts. It is a traditional food ingredient used in Southeast Asia, south Asia, Oceania, and east Africa. One can make this at home with a twin gear juicer after harvesting the white coconut meat from a mature coconut. Any sold in stores i.e. in a can or jar on the store shelf, has been heated, processed and has additives and is devoid of natural bacteria and enzymes vital to its proper digestion and utilization. Fresh coconut cream per research of over 3000 cases was found to be the most effective cleansing fat when fresh and raw. It is water soluble and easy for the body to utilize.

If you do not wish to make your own coconut cream, fresh raw coconut cream can be obtained from a company in Missouri called “Original Living Coconut”. The website is of the same name.

Conduction: the process by which heat or electricity is directly transmitted through a substance when there is a difference of temperature or of electrical potential between adjoining regions, without movement of the material.

Contrails: 33,000 feet above the earth's surface and upward from there, when hot engine exhaust momentarily condenses, ice crystals are formed into a pencil-thin like vapor trail that quickly vanishes behind a jet.

Contrast therapy: See *Hydrotherapy* in this glossary.

Dado: a groove cut in the face of a board, into which the edge of another board is fixed.

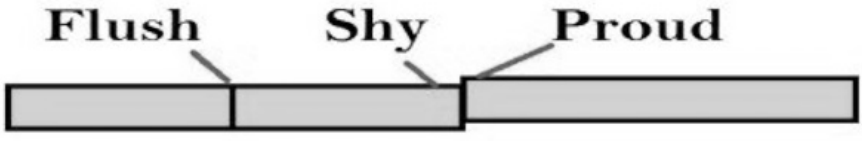
Dado blade: a specially designed table saw blade that is designed to make thick notches in boards.

Earthing / Grounding: refers to contact with the Earth's surface electrons by walking barefoot outside or laying down on the grass with skin contact on the ground or by sitting, working, or sleeping indoors when connected to conductive systems that transfer the energy from the body into the electrical grounding system of the home.

EMF: Electro-Magnetic Field radiation. EMF produces waves of protons and neutrons that exchange and change the molecular structures of most biological substances within the EMF range. Such effect creates an imbalance in the electron/proton balance of the atoms which can alter the molecular structure and behavior of the cells. They are measured in milligauss or gauss. The strongest is an MRI (magnetic resonance imaging) machine that uses about 75,000 milligauss. Other sources are common electronics in a modern home at a much lower level in the range of 3 to 150 milligauss. Electric ranges produce EMF that can potentially alter the biological makeup of the food cooked using an electrically powered range or cook top. Personal exposure to electromagnetic pollution should be avoided. Earthing is said to help cure EMF effects in the body.

Empirical: based upon observation and experiment instead of theory.

Flush: when two adjoining surfaces are joined perfectly flat to each other they are flush. If off a bit, one is 'proud' and the other 'shy'.



Hammam: a hammam or Turkish bath is a type of steam bath or a place of public bathing associated with the Islamic world. It is a prominent feature in the culture of the Muslim world.

Heatstroke is a condition caused by your body overheating, usually as a result of prolonged exposure to or physical exertion in very high temperatures. Experience shows that no one has ever experienced heat stroke from hydrotherapy even with temperatures exceeding the highest recommended temperature of 110 degrees F.

Hydrogen peroxide effect: with naturally sparkling mineral water, there is a "hydrogen peroxide effect" or an antibacterial effect. It bleaches and breaks down toxins. It separates and neutralizes toxins so they are not so toxic. The carbonation will increase the oxygen level of the blood. When it gets to the intestines it turns into nitrogen and when it goes into the blood it turns into oxygen. This natural carbonation also helps to dissolve kidney stones. Therefore, naturally carbonated water is a good additive to any beverage, juice or to drink by itself. Check the label to confirm it is naturally carbonated water. Ordinary hydrogen peroxide at any strength should never be ingested.

Hydrotherapy: hydro = water. Therapy = treatment intended to relieve or heal an ailment or disorder. Hydrotherapy means to treat or heal using water. This can be internal or external. Exercises in the water is another form of hydrotherapy. There are various applications. External ones include hot water such as soaking in a hot tub or spa. Another is hot and cold water such as hot tub and cold dip pool. There are also saunas, steam baths, showering in cold water and soaking one's feet in hot water or foot bath. Heat compresses and ice packs are another example. Temperatures vary. An internal example is colonics. Common things treated with external application are high blood pressure, anxiety, aching joints, sore muscles, inhibited circulation, inflammation and lymphatic congestion.

A similar therapy or a version of hydrotherapy is called contrast bath therapy. This is where one immerses a limb or the whole body into hot water for a time followed by the immediate immersion of the limb or body into cold ice water.

Contrast therapy can help flush lymph fluid efficiently throughout the body, thus reducing inflammation. The pumping mechanism it creates in the vascular / capillary system of the body also helps boost the amount of nutrient-rich blood circulating around the body and can help you feel invigorated and alert. The time spent in the hot and cold water can vary depending upon the doctor's or physical therapist's

recommendations. Athletes often use contrast therapy for minor sprains, sore muscles and inflammation from injuries.

Ineffable: too great or extreme to be expressed or described in words.

Lipids: various organic compounds which are fatty acids that are insoluble in water. They include fats, oils, steroids, waxes, hormones, and certain components of membranes. They function as energy storage molecules and chemical messengers.

Lipid Oxides: the oxidation and degradation of lipids. It is the process in which free radicals "steal" electrons from the lipids in cell membranes, resulting in cell damage. The chemical products of this oxidation are known as lipid peroxides or lipid oxidation products which are known carcinogens.

Lymphatic Congestion: toxicity accumulated in the lymphatic system causing the lymph system to be jammed and to not function properly especially the nodes and glands. (See the definition of the lymphatic system below.)

Symptoms of Lymphatic Congestion are muscle and/or bone soreness, skin problems such as psoriasis and eczema and chronic fatigue.

Lymphatic system: a web network similar to the nervous system and cardio vascular system. The difference is that the lymph system has nodes and glands. The nodes can be as small as a BB pellet or from 0.25 to 1.5 inches. In other terms, the glands can be the size of small marble up to the size of a thumb. When inflamed with toxicity they can expand to a larger size.

How the lymphatic system works: It takes in waste inside the glands and nodes. A solvent is created by bacteria to break down the cell and with the lymphatic fluid the waste is neutralized. The lymphatic fluid contains high concentrations of alkalizing minerals such as calcium, magnesium, phosphorous and potassium. These minerals help to neutralize the acidity and makes a liquid. This liquid mixture is then transferred into the connective tissues. These connective tissues are mostly under the skin. The next step is for your body to perspire the fluid containing the toxicity out through the skin. However, if the lymphatic system is deficient or blocked, its job is impaired and it is not going to neutralize the toxicity. Then when it transfers into the connective tissues and is perspired to the skin, the toxic non-neutralized fluid damages the skin in the form of rashes, acne and hives.

The lymphatic system when working properly neutralizes toxins and reduces toxins to smaller substances that can be eliminated. They are eliminated via the pores, tear ducts, mucous membranes, vagina, bowels, ears via ear wax and the urinary tract but mostly the via the skin.

The lymphatic system is key to health by helping the body get rid of dead cells and other toxicity this is vital for health and longevity.

Manganese: a mineral found naturally in the environment, it is one of the most abundant metals on the earth's surface, in air, water, and soil. It can be found in groundwater and surface water from natural sources or as a result of mining and industrial discharges. Manganese is an essential nutrient at low doses, elevated levels are a health concern.

Milligauss: a unit of measurement of the density of a magnetic field. According to present-day alternative scientists 3 milligauss is the limit for health. They have observed that any EMF above 3 milligauss alters the molecular structure of animal cells.

Driving a modern vehicle exposes the driver and passenger in the front seat to approximately 35-100 milligauss of EMF when the engine is on. This has shown to create hyper-activity or fatigue. Some have experienced soreness in their legs where the EMF is

highest. Pilots are exposed to EMF from 100-200 milligauss during their flight. Many pilots have reported that they fly only a limited amount due to the brain fog and fatigue they experience.

Naturally carbonated: the water source or the well has carbon dioxide gas that is just above the water level. The water is extracted by a pipe and another pipe extracts the carbon dioxide above the water level. Then it is mixed together into a bottle. If a label reads "natural carbonation added" or "naturally carbonated", or "naturally sparkling", the carbonation is natural from the well and has a high level of healthy electrolytes. It helps oxygen absorption. Brands of naturally carbonated waters are Gerolsteiner, Perrier, San Pellegrino, Apollinaris, San Faustino and Raml osa.

NEC: National Electric Code is a regionally adoptable standard for the safe installation of electrical wiring and equipment in the United States.

Nominal: lumber that is cut to standard widths and depths, but never lengths. An example is a two-by-four. This is the size before it is milled. After milled or cut for use it is actually 1 ¾ by 3 ¾.

Onsen: (in Japan) a hot spring, or a resort that has developed around a hot spring. The temperatures of an onsen range from 122 degrees F to much higher. They are intended for short soaks of about 10 to 15 minutes. An onsen often has baths of varying temperatures so one can work his/her way to the higher temperatures and rotate.

Perchlorate: a chemical compound containing the perchlorate ion. The majority of perchlorates are commercially produced salts. They are used mainly as oxidizers for pyrotechnic devices and to control static electricity in food packaging. According to US studies, perchlorate has found to cause harmful effects on human health, one being disrupting the functions of the thyroid gland and potentially leading to a reduction in the production of thyroid hormone.

Phosphoric acid: a corrosive acid used as a rust inhibitor and in etching metal. It is used as an ingredient in home cleaning products and is commonly added to soda and other processed foods and beverages to give them a tangier flavor or makes the flavors more intense. It also acts as a preservative as it slows down the growth of bacteria and molds that would otherwise grow rapidly in a sugar-rich beverage. Phosphoric acid uses in food and drink are legal in the US as approved by the FDA and it is allowed in

processed cheeses and other dairy products to adjust their pH levels. Scientific research suggests the following health dangers from phosphoric acid: Lowers bone density, decreases bone mineral levels, kidney di sease, kidney stones, hypocalcemia (too little calcium in the blood) impair the body's utilization of vital nutrients such as iron, magnesium and zinc, increases body acidity and damages tissues. Side effects are chemical burns, diarrhea, stomach cramps, irritated and burning eyes and skin, irritated nose, throat and lungs, nausea, wheezing and coughing and vomiting.

Poison: a toxic substance that causes an impairment, illness, injury or death if taken into the body. A small amount acts as a stimulant (something that speeds up the activity of the body). A larger amount can act as a sedative (causing sleepiness or calmness) and when a very large amount is taken or is concentrated and potent enough, it can kill the body. Alcohol is an example. One or two drinks act as a stimulant, a larger amount can put you to sleep or act as an anesthetic and drinking a half gallon of 190 proof vodka in a short span of time would probably kill you.

Premature Death: when chemical toxins and radiation poisoning remain in the body, they can kill cells, inhibit cell growth and cell reproduction. They cause the body to slowly die. After years of such contamination with

little to no detoxification the organs don't work well. Some parts of the body's functions shut down. The wrong thing to do is treat symptoms with medication which is just more chemical toxicity producing more ill side effects for the long run. In ordinary old age where a person has difficulty doing normal functions such as walking, performing ordinary tasks and who exhibit chronic aches, pains, soreness, limited range of bodily movement, poor circulation, etc. the actual cells alive in the body have been vastly reduced. Such symptoms indicate that the person has approximately 30% percent of his/her cells alive in the body. People normally die when they have only 22% of the body's cells alive. Research indicates that anyone dying before the age of 138 is suffering from such conditions. Detoxification and a healthy diet of no chemicals is vital for such a life span.

PFAS / PFOAs / PFOSs: Per- and polyfluoroalkyl substances: a family of man-made chemicals that contain fluorine, carbon, and other elements. These chemicals have been used since the 1940s and are found in a variety of products including firefighting foams, household products such as non-stick cookware, food packaging, stains of various types, water repellants, carpets, liners in canned foods, upholstery, etc.. Two of the most studied PFAS chemicals are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS); some of these chemicals were phased

out of production in the USA. Yet, as many as 3,000 other PFAS chemicals still are used in a wide variety of applications. These chemicals resist degradation meaning they accumulate in the environment and in the human body and animals to a high degree over time and can remain in the body for up to 8 years. However, according to Dr. Edward Howell and Frances Pottenger, toxins often are transferred to new cells for up to 5 generations. Thus, they could remain in the human body for as little as 40 years for people who are on a diet rich in raw fats and proteins. For a person who eats a poor diet these chemicals can store in the body for their lifetime.

Pyrotechnics: the craft and science of creating things such as fireworks, safety matches, oxygen candles, explosive bolts, parts of automotive airbags as well as gas-pressure blasting in mining, quarrying, and demolition.

Quadrilateral: a four sided figure; having 4 straight sides.

Radiation-poisoning: sources are

- X-Rays
- fluorescent lights
- cathode ray tubes

- certain medications
- medical testing such as MRI and CAT Scan
- computer monitors
- irradiated food
- scanners
- laser printers
- cell phones
- Bluetooth™ technology
- microwaves
- jewelry (uranium glaze & cloisonné)
- industrial pollution such as nuclear explosions and testing of nuclear weapons
- nuclear weapon production and decommissioning, mining of radioactive ores;
- EMF's From improperly grounded electrical connections and operating machinery.

Also note that building material such as sandstone, concrete, brick, natural stone, gypsum, and granite contain naturally-occurring radioactive elements like radium, uranium, and thorium. These naturally-occurring elements can break down or decay into the radioactive gas radon.

Nutrient solutions for detoxifying radiation poisoning: avocados with oranges and/or melons; coconut cream with berries such as blueberries, blackberries, boysenberries or raspberries; raw milk with unheated honey. A good ratio is about 3 ounces of coconut cream

to 2/3rds a cup of berries or as desired. Raw meat and the raw fat from raw meat also aid in detoxifying radiation poisoning. An active circulator system (cardio vascular exercises) and hot water therapy as laid out in this book also help in the detoxification of radiation.

Serotonin: is the key hormone that stabilizes our mood, feelings of well-being, and happiness. This hormone impacts the entire body. It enables brain cells and other nervous system cells to communicate with each other. Serotonin also helps with sleeping, eating, and digestion.

Silica: a hard, unreactive, colorless compound which occurs as the mineral quartz and as a principal constituent of sandstone and other rocks.

Stave: a vertical wooden post or plank in a building or other structure.

Stimulant: something that causes a temporary increase in the functional activity of a body part or organ of the body such as a drug or electrical impulse.

Tannin: a yellowish or brownish bitter-tasting organic substance present in some barks, wood, leaves, roots and seeds. It is used in leather production and ink manufacture.

Tonsillitis: reddened and swollen tonsils and throat, with some or all of these symptoms: difficulty swallowing, coughing, hoarseness, headache, fever, earache, nausea, vomiting, sinus congestion, discharge and swollen lymphatic glands throughout the body. See "Tonsils" in this glossary.

Tonsils: two oval-shaped pads of lymph tissue at the back of the throat above and behind the tongue. One on each side. The tonsils are the extension of the lymphatic system which cleans the body. They are very large lymphatic glands that protect the mouth, brain and thyroid from direct contamination from toxic substances introduced through the mouth. Tonsils utilize fatty cells, either white blood cells or lymphatic cells to harness toxins. They neutralize degenerative brain cells by eating dead red-blood cells and by doing so they keep the blood clean and efficient. Tonsils are *supposed to* erupt to break down toxins so the body can discard the toxins and they help fight body infection. It is preferable to keep your tonsils. When damage to tonsil tissue occurs, discharge of toxins throughout the surrounding tissues results, causing throat and mouth

rashes and swelling.

Toxic: involving something poisonous relating to or containing a poison.

Trans-fatty acids are manufactured fats created during a process called hydrogenation, which is aimed at stabilizing polyunsaturated oils to prevent them from becoming rancid and to keep them solid at room temperature. They may be particularly dangerous for heart health and may pose a risk for certain cancers. Hydrogenated fats are used in stick margarine, fast foods, commercial baked goods (donuts, cookies, crackers), and fried foods.

Trapezoid: a quadrilateral (a four sided figure) with 2 parallel sides.

Turbid: (of a liquid) cloudy, opaque, or thick with suspended matter.

Whey: remember little Miss Muffet eating her curds and whey? Whey is the watery part of milk that remains after the formation of curds. Let raw milk sit out at room temperature for a few days and it separates into curds and whey. Curds are used for making cheese and cottage cheese and the whey is considered a byproduct. However it is a good food and has several uses. Whey has protein and other nutrients that are healthful. Whey can be efficiently absorbed into the body in its raw liquid state. It also is a blood thinning food. Powdered whey protein powders have all the enzymes and nutrients destroyed during the processing of the liquid whey into a powder by heating and dehydrating.

About the author

John P. Reed, severely affected by leukemia and dying, sought out natural remedies to cure himself through dietary nutrition and hot and cold therapy. John researched water filtration systems with renowned nutritionist *Aajonus Vonderplanitz* with the purpose of having the cleanest possible water to use for hot and cold water therapy. The result was clean, drinking water quality water to soak in. The harmful level of toxic contaminants such as chlorine, fluoride and other toxic substances as found in city water supplies were filtered out.

With diet, persistence, time and applying the principles of the newly discovered hot water therapy, John was fully cured of his "incurable" disease.

Being trained in carpentry and as an electrician, John

designed and built his own wood hot tub system. John then designed and built hot tubs for others. John's valuable experiences and the *new discovery* of healing using specific hot water temperatures are revealed in this book.

References

Recommended reading:

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Book: *The Cholesterol Myths; Exposing the Fallacy* by Uffe Ravnskov MD, PhD.

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Book: *We Want to Live* – By Aajonus Vonderplantiz

Book: *Pottenger's Cats: A Study in Nutrition – b*y Francis Marion Pottenger Jr.

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The current treatments for cleaning or draining the lymphatic system are not wholly effective.

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The detoxification and purification of the lymphatic system using hot and cold therapy as outlined in this book is a new discovery. It has been well researched and can provide definite and lasting health benefits.

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